REPORT

OF

THE OFFICER OF HEALTH

FOR MANCHESTER.

FEBRUARY 28TH, 1874.

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REPORT OF THE OFFICER OF HEALTH.

To the Chairman and Members of the Health Committee.

Gentlemen,—My last Report contains the Vital Statistics of the City of Manchester for the years 1868, 1869, 1870, and 1871, together with some special Tables of Mortality relating to the latter year.

In the present Report I have tabulated the deaths in the years 1872 and 1873, for the convenience of comparison, in accordance with the plan adopted in the former one. Special prominence has been given in the tabulation to the deaths resulting from diseases which are communicable from one person to another, or which may seem to arise from conditions external to the sufferers. A more minute analysis of the causes of death would greatly extend the volume of the Report, without perhaps conveying to the mind of the general reader any special significance.

By the kind courtesy of the Registrar-General of Births, Deaths, &c. in England and Wales, in permitting me to copy the boundaries of the Enumerators' Districts within the several Registration Sub-Districts of Manchester, into which the city was divided for the purposes of the last census, and the further kindness of allowing me to copy the results of the enumeration on the completion of the census, I have been enabled to construct a Map of the city divided into Enumeration Districts, the respective areas of which I have had exactly measured, and have thus been able to give the density of population in each of the small blocks or places comprehended within the Enumeration Districts. The altitude of these districts above the sea has also been obtained. In the series of Tables which accompany the Map are given, in vertical columns, the numbers of the Enumeration Districts in each Registration Sub-District, their height above the sea, their area in acres, the number of persons to the acre, the average rate of mortality, or annual number of deaths per 1,000 persons living during the ten years preceding the census, and the death-rate in the year immediately before that of the census. The Map and Table will be found in the Appendix to this Report.

The areas included within the respective districts are so small that the Tables furnish a very minute analysis of the absolute and relative mortality in different portions of the city. Nevertheless, in some few instances the destruction of dwelling-houses to make way for warehouses, railway stations, and for other purposes, and in others the rapid erection of new dwellings, have materially affected the accuracy of the figures in the column of average mortality during the decenniad. The labour of constructing the Map and compiling the Tables was very considerable; but their value to persons engaged in sanitary investigations, and to those whose benevolence may prompt them to seek the amelioration of some of the worst districts in the city, will be very great. It is hoped that similar maps and tables will be constructed for other towns and cities, and will be published in the sanitary reports of their authorities, so that a better means of comparing the relative rates of mortality will be furnished than exists at present. To ourselves they are essential, as they not only enable us to direct our attention to the most unhealthy localities in the city, but they will also give us the means of estimating, after the lapse of a few years, the results of sanitary improvements in the individual districts. In future Reports, up to the next census, the deaths will be referred to and distributed over these districts.

The subjoined tables exhibit the mortality within the city of Manchester during the successive years of the Health Committee's existence. :—

Deaths from all causes:—

Years.	Estimated Population.	No. of Deaths.	Rate per 1,000.
1868	345,295	11,242	32·55
1869	346,401	10,232	29·53
1870	347,701	9,906	28·48
1871	348,791	10,435	29·91
1872	350,002	9,551	27·28
1873	351,080	10,015	28·52

Deaths from five zymotic diseases (smallpox, fever, measles, scarlet fever, whooping cough):—

Years.	No. of Deaths.	Rate per 1,000.
1868	2,342	6·8
1869	1,505	4·3
1870	1,138	3·3
1871	1,201	3·4
1872	1,207	3·4
1873	1,262	3·5

Deaths from fever (typhus and typhoid):—

Years.	No. of Deaths.	Rate per 1,000.
1868	635	1·83
1869	403	1·16
1870	392	1·13
1871	282	0·80
1872	242	0·68
1873	232	0·66

The steady decline of the death-rate from 1868 to 1871 was interrupted by the epidemic of smallpox, which during 1871 ravaged the whole kingdom. Though the death-rate was to some extent raised by this epidemic, yet it is satisfactory to know, that although the disease set in with great severity, yet by the precautions taken the mortality from it was less in Manchester than in almost any other part of the kingdom. The deaths per 10,000 of population were in Sunderland 86, in Newcastle-on-Tyne 54, in Wolverhampton 41, in Liverpool 39, in London 24, and in Manchester 7.

The deaths from smallpox within the city during 1872 were 63, and 19 during 1873.

The total mortality from all causes during 1872 was extraordinarily low compared with that of many preceding years. It was the lowest probably of which we have any correct record. That of 1873 was raised by an excess of deaths from scarlet fever (522) and by the sudden fluctuations of temperature in the early part of the year. The death-rate in the first quarter of the year was 31·88, in the second quarter 27·56, in the third 28·65, and in the fourth 25·95. A great number of old people perished from diseases of the lungs during the first quarter.

The true test of sanitary improvement, says the Registrar General, is afforded by the statistics of fever; and if this be so, then the two tables of deaths from zymotic diseases must be regarded as eminently satisfactory. The table of deaths from fever shows a steady and regular decline from 1868, with 635 deaths, through the successive years to 1873, with 232 deaths, or a decreasing death-rate from 1·83 to 0·66. A distinguished physician in Manchester, who perhaps attends a larger number of cases of infectious disease than any of his professional brethren, told me a short time ago that he thought he had not seen a case of true typhus for a year and a half.

The mean annual mortality for the first two years after the appointment of the Health Committee and the Officer of Health, and the succeeding four years, from the diseases tabulated in this Report, are given below:—

Years 1868-69.		Years 1870-71-72-73.
519	*Fever (Typhus and Typhoid).*	287
882	*Scarlet Fever.*	340
246	*Measles.*	189
227	*Whooping Cough.*	300
955	*Diarrhœa.*	837

Years 1869-70.		Years 1871-72-73.
	Diseases of Lungs.	
3,177		3,059

With the exception of the deaths from whooping cough, it will be seen that there has been a satisfactory diminution of the mortality from all the diseases specified, whilst in the case of the first three forms of zymotic disease the reduction has been very large. There have been considerable fluctuations in the mortality from each cause, partly due to our transitional condition and partly to circumstances over which at present we have very little control; still the constancy of the aggregate results, as indicated by the figures in the third column of the last four years in Table 2, lead to the hope that these are expressive of something more than an ordinary cycle.

The mean proportion of the deaths of children under five years of age to the total number of deaths at all ages within the city during the five years 1869-73 is as 47·3 per cent.; that is, out of every 100 deaths at all ages 47·3 deaths occurred in children under five years of age. The relation during the years 1869-72 and 1873 was pretty constant. The numbers for the years 1870 and 1871 exhibited considerable deviations, as shown by the following table:—

Number of Deaths of Children under five years of age out of 100 *Deaths at all ages.*

1869	47·0
1870	45·8
1871	48·6
1872	47·3
1873	49·7

In contrast to this excessive infant mortality, it occurred to me to endeavour to ascertain what was the ratio of infant mortality to the total number of deaths at all ages and from all causes amongst a body formed from the middle-class and the upper stratum of the operative class, whose habits of life and customs I believed would afford to the children born amongst them the best chances of survival, irrespective of climatal and other incontrollable conditions. By the kindness of my friend Mr. Charles Thompson I have been put in possession of a considerable body of statistics relating to the Society of Friends, and have been enabled to compile the following:—

TABLE *exhibiting the Number of Deaths in the Society of Friends under* 5 *Years of Age and at all Ages; also the proportion per cent. which the Deaths at each Age bear to the total Number of Deaths during the* 15 *Years ending* 1872.

YEAR.	Deaths under 5 Years of Age.	Deaths above 5 Years.	Total Deaths.	Rate per cent. under 5 Years.	Rate per cent. above 5 Years.
1857-58	38	284	322	11·8	88·2
1858-59	35	272	307	11·4	88·6
1859-60	28	296	324	8·6	91·4
1860-61	38	277	315	12·0	88·0
1861-62	35	262	297	11·8	88·2
1862-63	29	273	302	9·6	90·4
1863-64	53	277	330	16·0	84·0
1864-65	45	311	356	12·6	87·4
1865-66	49	292	341	14·4	85·6
1866-67	41	326	367	11·2	88·8
1867-68	41	301	342	12·0	88·0
1868-69	60	301	361	16·6	83·4
1869-70	52	267	319	16·3	83·7
1870-71	32	303	335	9·6	90·4
1871-72	35	306	341	10·2	89·8
Totals	611	4348	4959	12·4	87·6

Mr. Henry Thorpe, of Whalley Range, has also favoured me with the subjoined list:—

SOCIETY OF FRIENDS IN MANCHESTER.—Memorandum showing the number of births during the 11 years 1859-69, also the number of deaths of children under five years of age during the same period—

	Births.	Deaths.
1859	14	0
1860	18	3
1861	18	1
1862	13	2
1863	14	1
1864	7	1
1865	15	2
1866	6	2
1867	9	3
1868	9	0
1869	9	2
	Births......... 132	Deaths......... 17

Under 1 year	7
Between 1 and 2 years	6
" 2 " 3 "	3
" 3 " 4 "	0
" 4 " 5 "	1

Dr. Farr, in his essay on "The Mortality of Children in the principal States of Europe" (Journal of Statistical Society, Manchester, 1866), says that out of 100 children born in Norway 83 attain the age of five years; in Sweden 80; in Denmark 80, including Schleswig and Holstein down to the Elbe; in England 74; in Belgium 73; in France 71; in Prussia 68; in Holland 67; in Austria 64; in Spain 64; in Russia 62; in Italy 61.

The chance in favour of the life is in some countries as 8 to 2, in others only 3 to 2.

The proportion of deaths under the age of 5, out of 100 children that see the light, is—in Norway 17; Denmark 20; Sweden 20; England 26; Belgium 27; France 29; Prussia 32; Holland 33; Austria 36; Spain 36; Russia 38; Italy 39.

Thus the proportion is in one part of Europe 2 in another 4 out of 10.

Out of 100 children born, in addition to the number 17 dying in Norway, 3 die in Denmark; 3 in Sweden; 9 in England; 10 in Belgium; 12 in France; 15 in Prussia; 16 in Holland; 19 in Austria; 21 in Russia; 22 in Italy.

Thus in the sunny States two children die for every one in the high northern.

In all England 26 children under five years of age die out of every 100 born; in the healthiest districts 18; in the thirty large town districts 36.

By the English Life Table, of 100 children born, 15 die in the first year; 5 in the second; 3 in the third year; 2 in the fourth, and 1 in the fifth; making 26 in the five years of age. Of the 15 who die in the first year, 5 die in the first month of life, 2 in the second, and 1 in the third.

There are districts in England and Wales in which the average annual number of deaths under one year of age per 100,000 living within that age during the ten years 1851-60 was between 7,000 and 8,000; and there are other districts in which the average annual number of deaths under one year of age during the same period was between 26,000 and 28,000 per 100,000 living. The ratio of infant mortality represented by the first numbers was found in Bellingham and Rothbury, both in the county of Northumberland, and at Newcastle-in-Emlyn, Cardiganshire. The frightful mortality represented by the last numbers was found in Manchester, Liverpool, and Coventry. Extending the inquiry over a longer term of life, we find that whilst during the same period of ten years the average annual number of deaths under five years of age per 100,000 living within that age was—in Bellingham and Rothbury between 2,300 and 2,500, in Manchester and Liverpool it was between 11,700 and 13,300. If we bring these numbers into relation with those expressing the mortality at all ages within the same districts and during the same period, we find that the average annual number of deaths per 100,000 living at all ages was—in Bellingham and Rothbury between 1,300 and 1,400, and in Manchester and Liverpool between 3,100 and 4,500.

The general relations just indicated give to the question of infant mortality an importance which cannot be exaggerated. When we find that in the districts in which circumstances are most favourable to infant life and health 7 per cent. only die annually under one year of those living within that age, and that nearly 28 per cent. die in Manchester and Liverpool within the same time,—that, in fact, out of every four who so die in the latter places three out of the four would survive in the former,—we realise to ourselves something of the terrible struggle for existence which the little creatures have to make who are born amongst us in this city.

When we find that the relation holds in an exaggerated degree up to the fifth year, we may conceive how largely the general death-rate is influenced and impressed by this of infancy and childhood, and how much it behoves us to search into the causes of its irregularity, and to ameliorate those conditions surrounding infant life which in the aggregate produce a larger amount of human destruction than war, pestilence, or famine, or most of the evils that the crime or negligence of man have brought upon him. It will create a feeling of surprise in the minds of some persons to learn that the circumstances most conducive to infant life and health, as well as to those of more advanced childhood, have been found—not in the warm, genial, and balmy south, nor on the coasts fanned by ocean-borne breezes, but in districts where the winds are cold, and the rain-falls often,—where the air is moist and the sky is clouded,—in stern Northumberland.

A somewhat long study of the infant mortality of this country has led me to believe that in its exposition its relative amount should first be shown over wide areas, as thus by comparison can be observed the influence of latitude and longitude, of elevation and depression, of geological formation, of temperature and moisture, of the general character of the surface of the land, of drainage, of density of population, of occupation of parents, of the dwellings of the people, of wages, of diet, and of such special matters as pertain to particular districts or counties.

To render more apparent to the eye the great differences in the rates of infant mortality in different parts of England and Wales, I have constructed a Chart exhibiting the average annual number of deaths under five years of age per 100,000 living in the several Registration Districts of England and Wales, during the 10 years 1851-60.

The Chart also exhibits the aggregate area in acres of the respective groups of districts, as well as the aggregate population of Registration Districts in England and Wales, in which the deaths under five years of age per 100,000 living are expressed by numbers to the left of each line.

With a view to show the relation of the deaths to each other at early ages, and that of infant mortality to the total mortality at all ages in different districts throughout the kingdom, I have also compiled a Table exhibiting the deaths under 1 year of age, under 5 years of age, and at all ages per 100,000 living under the respective ages in the several Registration Districts of England and Wales during the ten years 1851-60, with the population of each district in 1861. The Table and Chart will be found in the Appendix.

In the Table are arranged in columns the names of the districts, the counties in which they are situated, the population of the districts in 1861, the proportion of deaths under 5 years of age to the number living under that age, the proportion of deaths under 1 year of age to the number living under that age, and the proportion of deaths at all ages per 100,000 living.

An examination of the Table will show that the relation of the deaths under 5 years of age to those under 1 year of age is not constant, but varies considerably in different districts; and nothing can more thoroughly show the necessity of an examination of the special causes of infant mortality in each district than the relation thus exhibited.

In the Chart the upper shortest line exhibits a death-rate under 5 years of age of 3,659 per 100,000 living under that age in certain districts, and the lowest longest line a rate of 13,201 under 5 years in the most unfavourable district.

A brief statement of the data which exist for the construction of sanitary charts and tables, and of the mode in which these data are obtained, will to most persons be necessary to a comprehension of the Chart and Table of infant mortality, and of the Tables accompanying the Sanitary Map of Manchester found in the Appendix.

For the carrying out of the purposes of the Act for the Registration of Births, Deaths, and Marriages in England and Wales, the country has been divided into Registration Districts, which are for the most part co-extensive with Poor Law Union Districts, and groups of these Registration Districts have been designated Registration Counties, which though not exactly coinciding with the ancient boundaries of counties and hundreds, do not differ from them to any important extent. The Registration Districts are under the supervision of Officers called Superintendent Registrars, and each is divided into a number of sub-districts, to each of which again is appointed a Registrar, who makes all entries of particulars of the births and deaths occurring within his sub-district, specifying the date and place of birth or death,—the name, sex, and parentage in births, together with the occupation of the parents; and age, sex, occupation (if any), and cause of death in deaths. All these particulars are tabulated at the office of the Registrar General in Somerset House, and form the basis for the vital statistics of the kingdom.

The Census of the population at each decennial period is taken by officers called Enumerators, who act under the Registrars, and whose operations are confined within the respective sub-districts, so that the whole census of the kingdom is taken in Registration sub-districts; the results being grouped to form the population statistics of the Registration Districts and Registration Counties. "This arrangement is indispensable for inquiries connected with public health, "or with the determination of the proportion of births and deaths, &c., to the "general population; and indeed for all purposes involving the necessity of com-"paring the results of the census with the statistics obtained in the department of "the Poor Law Board and the Registrar General."

The first volume of the Census of England and Wales, 1861, gives a series of tables in which the particulars are arranged according to the Registration Districts, and under groups of these Districts called Registration Counties. The tables give the area in statute acres, the number of houses inhabited, uninhabited, and building, together with the number of males and females living in each Registration District and sub-District.

In the second volume are tables giving the ages of males and females in quinquennial periods in each Registration District and sub-District, and also Tables giving the number of children living at each year of age under five years in each Registration District or Superintendent Registrar's District.

It will be seen from these statements that the number of persons living at each year of age up to five years in each Registration District in England and Wales was known in 1861 from the details of the Census, and also that the number of persons living under five years of age, in one group, and at quinquennial periods of age up to 100 years (per example at 5, 10, 15, 20, &c.) in each Registration District and sub-District was ascertained from the same sources, so that any calculations based on these Tables are true so far as the accuracy of the returns can be depended upon.

In the annual volumes of the Registrar-General the individual facts relating to the age, sex, occupation, and causes of death recorded by the Registrars of the respective Registration sub-Districts are tabulated so as to exhibit the numbers dying during each year within each year of age up to five years, and within the several subsequent quinquennial periods of age in every Superintendent Registrars' District in England and Wales in connection with the causes of death.

For the ten years 1851-60, the causes of death, grouped according to the system of classification published by Dr. Farr, during every year of age up to five years, and with each subsequent quinquennial period of age in all England and in the several Registration Counties and Districts, are given in the Supplement to the Twenty-fifth Annual Report of the Registrar-General, printed in 1864.

To have carried the tabulation farther to Registrars' sub-Districts, would, it is presumed, have made the volume too bulky, and as by permission of the Superintendent Registrars of Districts the registration books can be made available for further division, when desirable, it was perhaps scarcely necessary that this should have been done in the Registrar General's volumes.

The relative proportion of persons living at different ages in the different Registration Districts is liable to some considerable variation. It is, therefore, desirable, in dealing with the subject of infant mortality, to compare the number of deaths within specific ages in any district with the numbers of children living in such districts within the respective ages. This was pointed out in a very admirable essay preceding the Abstract in the Fifth Annual Report of the Registrar-General, printed in 1843. In 1844 the Registrar-General compiled a valuable series of tables exhibiting the "Average Annual Proportion of Deaths "from Specified Causes, at Specified Ages, in England and Wales, during the "Ten Years 1851-60," in which the number of deaths in every Registration District in England and Wales for the decennial period 1851-60 is given at several ages, from 100,000 living of each class referred to. Thus the number of deaths from all causes at less than one year of age in each district is given per 100,000 living in the district within that age during the decenniad, the number of deaths and the numbers living under the age being averaged for the whole period. The numbers at less than five years of age, and at all ages, are also given.

As from a variety of circumstances the mortality within any district is liable to considerable fluctuation, it is necessary on this account to take the average of a considerable number of years to express the normal amount of infant mortality within it, and from the facts relating to the population numerically brought out at each census, the interval covered between each is the most convenient to take.

With this explanation the Chart and Tables of Infant Mortality given in the Appendix, as well as the Tables illustrative of the Map of the City of Manchester, will be understood. It will be seen that the city has been divided into Registration sub-Districts, and these latter again into Enumerators' Districts, as defined for the purposes of the last census. Of these small Enumerators' Districts, consecutively numbered within their own Registration sub-Districts, the Tables furnish the area, height above the sea,—the density of population or number of persons to the acre,—the mean annual rate of mortality for the ten years preceding the census, and the rate for the years immediately before that of the census. The data for the construction of the Chart and Tables of Infant Mortality and the mode of construction will also be obvious. The data for a similar Chart and Tables connected with the Census of 1871 are not yet fully printed, but I hope in a future Report to give from these similarly tabulated information. The comparison of the two sets will be exceedingly interesting, as they will exhibit the effect of improved drainage and other sanitary amelioration generally.

To render their significance more apparent to the eye, and to give more completeness to the facts brought out by the census of 1861 and to those contained in the Supplement of the Registrar General to his Twenty-fifth Annual Report, dealing with the mortality of the ten years 1851-60, so far as these relate to infant mortality, I have constructed an additional series of Maps, Charts, and Tables, and have also endeavoured to show what is the influence on infant health and life of special or general physical conditions, by a comparison of the infant mortality in the different Registration Counties and Districts of England and Wales, as affected by mountain and plain, geological formation, rainfall, temperature, drainage, &c. An approximate valuation of these influences may perhaps best precede an inquiry into those of social conditions. The reproduction of the Charts and Maps, however, would be too costly, and the descriptive matter is too voluminous for introduction to a Report so brief as this is expected to be. Nevertheless it may perhaps be permitted to me, in the interest of my fellow-citizens who desire to know whither to send their sickly children in order to recruit their health, to state some general results of an inquiry into the amount of infant mortality on certain geological formations, and to make some comments thereon.

The average death-rate under one year of age per 100,000 living under that age, in the aggregate districts situated on the coal measures, was 19,211, and under five years of age 7,427. As the districts include nearly all the great manufacturing towns, the rates are of course enormously raised by the general and special unfavourable circumstances which give to the inhabitants of those towns their excessively high death-rate, so that it may be said that the influence on health and life of this geological formation is almost entirely an indirect one. Still the districts are spread over an area much beyond that of the towns, and there are very few of them in which the death-rate is not high.

In the districts situated on the chalk, the average rate of the aggregate districts under one year of age was 16,744, and under five years of age 5,313 per 100,000 living under those ages.

On the London clay the average rate in the aggregate districts was—under one year of age 14,615, and under five years 5,139 per 100,000 living.

On the mountain limestone the rate of infant mortality was uniformly low. Under one year of age the average number for the aggregate districts was 11,774 per 100,000 living under that age, and under five years 3,929 per 100,000. There were two districts in which the rate was but little over 7,000 under one year, and two others in which it was little over 9,000. In nine districts out of a total of eighteen the rate was under 12,000, and in no district did it reach 15,000.

Some attention has been given of late years to the relative prevalence of particular forms or types of disease over certain geological areas. It has been shown, for example, that some forms of tubercular disease, as pulmonary consumption, seem to prevail more on tracts situated over mountain limestone than in those resting on red sandstone; and by some careful analysis Dr. Moffatt has shown that the mineral constituents of the cereals grown on these tracts differ considerably, and that thus, even in the food supplied from certain districts, there may be elements deficient which are essential to the healthy performance of the functions, and to the healthy condition of the body of persons of specific constitution.

A little consideration will show that not in this respect alone is the geological substratum of a country worthy of study in its relation to health. The quality of the water will depend on the rocks through which it filters, as well as that of the food grown on the surface. The drainage over the hard surface of crystalline rocks like the mountain limestone, and the metamorphic rocks of Wales and of the North of England, must be very different from that over the more plastic and adhesive surface of the London clay, of some portions of the coal measures, and even of the chalk. Whilst the crystalline rocks are cracked and fissured in every direction, allowing the water which has not been carried at once over their hard surface to permeate their mass with rapidity, the tenacious and continuous matter of some other deposits retain the water on the surface, where, parting with its oxygen and carbonic acid, it absorbs the effete gases resulting from vegetable decomposition, and dissolves certain organic matters in a state of decay, becoming thus a source of miasmic disease as well as reducing the general tone of health. We are as yet too imperfectly acquainted with the influence of ozone on health to speculate much on the effect of its relative amount in the atmosphere; but we do know that it is a powerful oxidizing agent, and is one of nature's great scavengers, that it seizes and renders harmless those imperfectly decomposed products of a dead organization whose ultimate function it is to rehabilitate the world with an ever-renewing garment of living verdure. It is the part of this agent to reduce these products to their simplest forms of combination before they can again become food for the plant-world, and the industry of man to promote this has been stimulated by making the intermediate combinations injurious to himself.

It is inevitable that over tracts where the drainage is imperfect,—where a stratum of water, however thin, intervenes between the atmosphere and the soil,—where the products of decomposition are not the results of direct oxidation, but rather of putrefactive processes, in which the elements of the water, and of the mineral constituents of the water and of the plants, take part, matters will be evolved which, as they are unfit for the sustentation of the highest forms of plant life, have also been found to be inimical to the highest developments of animal life. Over these tracts, where the ordinary oxygen of the atmosphere has not been allowed to play its proper part, it may reasonably be supposed that the mass of imperfectly-decomposed matter is disproportionate to the ozone normally existing in the atmosphere, and that the latter will be found to be absent, or existing only in minute quantity. It is the same in great cities and towns. Where the mass of decomposing matter is large in proportion to the area covered, the ozone will be exhausted, and the matters evolved in respiration and perspiration, instead of being rapidly oxidized, will be retained in the condition in which they have passed from the body, or will slowly putrefy into more injurious forms. Thus it is that the fœtid exhalation of a stagnant marsh, of the estuary of a tropical river with its accumulation of decomposing vegetable matter, and the noisome effluvia of a great town, produce diseases of a similar type, if varying somewhat in their form.

The crystalline rocks, as a rule—and with these I associate not only the mountain limestone and the igneous and metamorphic rocks, but also the crystalline sandstones of the coal series from the millstone grit upwards—are raised into considerable elevations, and thus the physical features of a country are closely related to its geological formation. Nearly the whole of North and South Wales, the north-west of England, including the most of Lancashire north of Preston, the whole of Westmoreland, nearly all Cumberland, the greatest part of Northumberland and Durham, the western part of the North Riding and the north-western part of the West Riding of Yorkshire, are occupied by crystalline rocks and are mountainous in character. They are formed chiefly of millstone grit, mountain limestone, upper and lower silurian rocks, with occasional intrusions of igneous rocks. The South-west of England, including Devonshire and Cornwall, is also largely occupied by igneous rocks and millstone grit, and is considerably elevated. An elevated, almost mountainous tract of country, formed of millstone grit and mountain limestone, extends also through the centre of England as far south as Ashbourne, in Derbyshire. In the North Moors of North-eastern Yorkshire, the North and South Wolds of Yorkshire and Lincolnshire, the Chiltern and Cotswold Hills, and the North and South Downs, we have examples of rocks of a less crystalline character rising into hills of more moderate elevation, whilst the plains are occupied by the younger members of the coal series, the new and old red sandstones, portions of the chalk formation, London and Oxford clays, and alluvial deposits.

With the exception of the country occupied by the old red sandstone (and much of the Devonian system is considerably elevated), the most ancient geological formations rise into the most elevated tracts, and possess physical characteristics which give to those tracts the greatest facility for drainage and to the vegetation the most ample means for complete decomposition, and insure to the water falling upon and issuing from them the greatest purity of composition.

Situated as these tracts are on the western side of the kingdom, they condense on their elevated slopes the moisture borne on the winds that have swept over the Atlantic. The abundance of rain that falls on their sides, and fills the streams that course through their beautiful valleys, dissolves the decomposing matter resulting from extinguished vegetable life, and as it ripples along, furnishes, by continued absorption, the oxygen necessary for complete conversion into carbonic acid; and thus the embrowned streamlets as they run continually brighten in their course till they sparkle at length in crystal purity, surcharged to effervescence with the gas that they have wrought.

It appears that the mean rainfall of the six years 1860-65, averaging that of the different stations from which communications have been made to Mr. G. J. Symonds, was in the—

Eastern Counties	23	inches
Western "	40	"
Northern "	38·3	"
Southern "	33·26	"
Midland "	30·0	"

so that in the Western and Northern Counties the annual fall of rain is nearly double that of the Eastern Counties.

I have compiled a Table of the Rainfall in each county from Mr. Symonds' Hydrographical Map of the British Isles and his other publications, from which it appears, by comparison with the Tables of Infant Mortality, that a large amount of rain falling on a district where the geological and other physical conditions are favourable, does not necessarily make the climate unhealthily humid, or inimical to infant life.

The temperature of a mountainous country varies so much with the altitude of its different portions, that its influence over a considerable area can scarcely be correctly estimated. In judging of its influence on health, it is necessary to have observations of the average seasonal temperature of the special limited districts under investigation. The inquiries of Dr. Farr, however, have elicited the information that the lowest infant mortality is found in some of the coldest countries of Europe, and in our own kingdom it has been shown that the lowest infant mortality is found in the cold and mountainous regions of the north and west. It is certain that zymotic diseases prevail less in elevated than in depressed localities. Some forms of these diseases, indeed, seem incapable of reaching or of existing in certain altitudes, so far as observations in this country have been made. Not only will the low temperature of elevated districts tend to arrest the development of the germs (if such exist) of these diseases, but their tendency to rise and diffuse themselves into the immediate atmosphere will be diminished, whilst the currents of wind that frequently prevail in these districts will sweep them away when formed, and dissipate them almost as rapidly as they are eliminated.

Although the rainfall, too, is so much more abundant in these elevated tracts than on the lower ground of the eastern half of the kingdom, it is probable that there is much less evaporation, less zymotic humidity, owing to the water being carried rapidly off in consequence of the physical features of the country, and the hard, cracked, and fissured structure of the subjacent rocks, as already explained.

Exclusive of the physical conditions thus slightly sketched or superadded to them, there are powerful social influences affecting infant mortality, some of which are so general as to be operative almost anywhere, whilst others are special and to be investigated in individual localities. There is a large group of these peculiar to our manufacturing towns, another set making the small towns and villages less wholesome than dwellings in the open country, and even in the latter many causes of infant mortality that might be much ameliorated.

But that the general conditions noticed have some considerable effect on infant mortality may be seen if we draw a line diagonally across the kingdom from the junction of the rivers which form the commencement of the Humber near Howden to the mouth of the Severn near Bristol, and carry another line from the mouth of the Severn to that of the Thames. The lowest infant mortality, excluding that in manufacturing towns, will be found in the great tract on the west side of the first line and in the counties to the south of the second line,—the highest infant mortality in the eastern triangle formed by the counties lying between the first and second lines and the North Sea. Excluding a few manufacturing towns, a low rate of infant mortality is also found in the whole tract north of a line drawn from Lancaster Bay to Flamborough Head.

With this exposition, and with the Chart and Tables of Infant Mortality, I trust that some assistance will have been given in the choice of places to which to send weakly or convalescent children. If I had a weakly, ricketty child, or one recovering from an illness, instead of the inevitable sea-side, with a low shore, bad drainage, and doubtful milk, I should seek out some mountainous district resting on crystalline rocks, and preferentially on mountain or carboniferous limestone, where the air is bracing and pure, the water full of lime, and the milk undiluted, and we need not go very far from Manchester to find such.

If any particular county be preferred, however, the Chart and Tables will show in what localities there has been the smallest amount of infant mortality. The estimated number of infants under 1 year of age on June 30th, 1860, was in England 593,000, in Scotland 90,057. The deaths in 1860 under 1 year of age were in England 100,984, or 17·03 deaths to every 100 living; in Scotland 13,413, or 14·89 deaths to every 100 living. Comparing the relative causes of death, it appears that convulsions is the chief cause of the very high proportion of infantile deaths in England as compared with Scotland;—that in England 35 infants died from convulsions in every 1,000 infants living, but only 6 died in Scotland in every 1,000 from the same cause. If the English mortality from convulsions were reduced to the same standard, seventeen thousand lives would be annually saved to England.

Dr. Stark attributes the difference to the fact that in England children get spoon-meat far too early in life, as this generally begins in England with the third month; whereas in Scotland, as a general rule, no spoon-meat of any kind is given to infants until nine months from birth are expired. In Scotland, too, 80 to 85 per cent. of all children born are suckled by their own mothers. They are suckled till they are nine months old. The feeding at nine or ten months old begins with gruel made of oatmeal, to which some milk is added. This is gradually thickened as the child advances, till it becomes the oatmeal-porridge on which all children are fed in Scotland, for the most part during all the earlier years of their lives. It forms the morning and evening meal, and is supped with butter-milk when this can be had, as it does not coagulate on the stomach like sweet milk. Vegetable broth, with barley and bread, forms the mid-day meal or dinner.

In Ardwick, Ancoats, and St. George's Districts, within the city of Manchester, more than one-half of all the deaths that take place are of children aged five years and under. A very large number of these children are regularly suckled for a very short period after their birth, the out-door occupations of their mothers determining the period. Two or three weeks constitute the brief interval within which Nature asserts her sway. After this, the breast occasionally, and most unsuitable food in the intervals, are the child's chances of life. The most urgent necessity of Manchester at this time, that on which the largest number of lives is depending, is the establishment of Day Nurseries, and of small Local Hospitals for the reception of children suffering from infectious febrile diseases. In my former Reports I have urged this so strongly that I have little to add to what I have therein expressed. The Barnes House of Recovery furnishes ample accommodation for the adult cases of infectious diseases in the city, but very few children go there. Typhus and typhoid fever and smallpox seem to be almost disappearing from amongst us; but over scarlet fever, which almost always attacks the young, we have little or no control, and we all suffer alike from its ravages. Beginning often in a cottage in some back street, it spreads from house to house till it reaches the suburban villa, and the wealthy and the poor suffer from the common enemy. It is horridly infectious, and is communicated by infection alone. Breaking out from some accidental communication in a cottage, it infects in succession all the children and sometimes the adults of the household, for in many of these cottages there is but one room to live in and one to sleep in. The women and children of the neighbourhood, from sympathy or curiosity, visit the infected houses, and so the disease spreads abroad. But if the child first affected could be at once removed to a hospital, and retained there till all risk of communicating the infection had passed away, the dwelling meanwhile being thoroughly disinfected, the spread of the disease would be at once stopped. 522 children died from scarlet fever within the city of Manchester during last year. This is not a necessity; it is the result of apathy, indifference, and neglect, on the part of the wealthy to provide the moderate means necessary to keep the destroyer from their own doors. The Corporation has undertaken to maintain the necessary hospitals if erected; the Boards and Committees of various Medical Institutions have promised to undertake the government, and the Medical Staffs to give the skilled attendance. Looking at the very large amount of money that is annually expended in Manchester, sometimes for purposes of doubtful utility, and at the large amount of unused wealth that exists, it is lamentable that the misery, suffering, loss of life, and attendant woe should go on from year to year without an effort being made to check the evil even in self-defence.

Whilst fully admitting the claims of the little sufferers from other forms of disease on our sympathy, I yet contend that the calls for assistance on the part of those who are suffering from infectious disease are the most urgent. To them free space, careful nursing, and regulated diet are especially necessary. Now 522 deaths from scarlet fever mean at the least 3,132 cases. I believe it may be safely asserted that not one of these cases originated spontaneously; they have every one resulted from distinct infection. Can it be believed that with proper means of isolation, viz., by removal to a hospital or receiving house, one-half of these cases would have occurred, or half the number of deaths have taken place? The suffering is not less than from other diseases. Scarlet fever is as distressing as bronchitis, and with this difference, that the bronchitis is dangerous only to the patient, whilst the scarlet fever is fully as dangerous to the sufferer and almost equally dangerous to everybody about him.

I fervently hope that not another year will be allowed to pass without some vigorous effort being made to keep away from our own doors so terrible an enemy, and to keep from the grave so many of the little creatures who, but for this, would grow up to be men and women.

The fine hospitals which have grown up and been brought into activity since my last Report afford ground for sincere congratulation. By the munificence of the late Mr. Barnes and the late Miss Brackenbury, the Fever Hospital at Monsall (close to the city) and the Hospital in connection with the Ardwick and Ancoats Dispensary have sprung into being. The former has afforded accommodation and the means of isolation to a large number of adult fever and small-pox cases, and has largely aided in the reduction of these diseases; the latter will furnish relief to a large number of non-infectious cases in a densely-crowded district which is probably the busiest hive of industry in the world.

The fine, handsome Hospital at Pendlebury, in connection with the Children's Dispensary, perhaps unsurpassed in its arrangements and construction, has been erected by subscriptions collected amongst the usual number of benevolent persons in Manchester. In this Hospital a small number of beds is appropriated to the reception of cases of infectious disease.

The Convalescent Hospital at Cheadle (another memento of the munificence of the late Mr. Barnes), in connection with the Manchester Royal Infirmary, is an important addition to the means for good of that great Institution, and a great boon to Manchester.

Thus have we had four great hospitals recently added to our means of meeting the evils of sickness affecting the poorer part of our population in Manchester and in the neighbouring towns and villages.

Looking at the fact that our Hospitals and Medical Charities have all been erected by the subscriptions of Manchester citizens, and are supported by their bequests, donations, and subscriptions, and that the neighbouring towns are getting hospitals for themselves, and are at all events competent to build them, a question has been somewhat discussed whether, looking at the size to which Manchester has grown, and to its great requirements, we should not become a little less cosmopolitan, and devote our hospitals and charities a little more exclusively to the wants of our own population.

In the Appendix to my last Report I gave the statistics of the different Medical Charities in Manchester, and showed that about 90,000 persons received charitable medical relief in Manchester every year, at a cost to subscribers and donors of between £30,000. and £40,000. annually. Of late years, however, wages have risen so much, and the means of the working classes have so much improved, that it has been felt that the time had arrived when some portion of this cost should be provided by themselves, and a movement has been set on foot to organize a system by which this can be carried out, by the establishment of partially self-supporting Dispensaries. It is not proposed to erect new buildings or institutions, but to utilise those already in existence, and, whilst preserving their full charitable character to the very poor, to develope a system of free and independent attendance on those who are able to contribute a moderate sum to secure this. The system appears to have answered well in some other towns, and it is probable that the class for whom it is intended in Manchester would at almost any time have gladly availed themselves of it had the opportunity been afforded them.

The number of visits paid by the Disinfecting Officers of the Health Committee to houses in which infectious diseases existed, or from which cases had been removed to hospital, during the two years 1872-73, was	12,086
The number of articles stoved or disinfected in the disinfecting oven	8,097
The number of houses the walls of which were stripped, cleansed, and dressed with caustic soda	799
Number of reports made by the Inspectors of the Nuisance Department in the years 1872-73	114,468

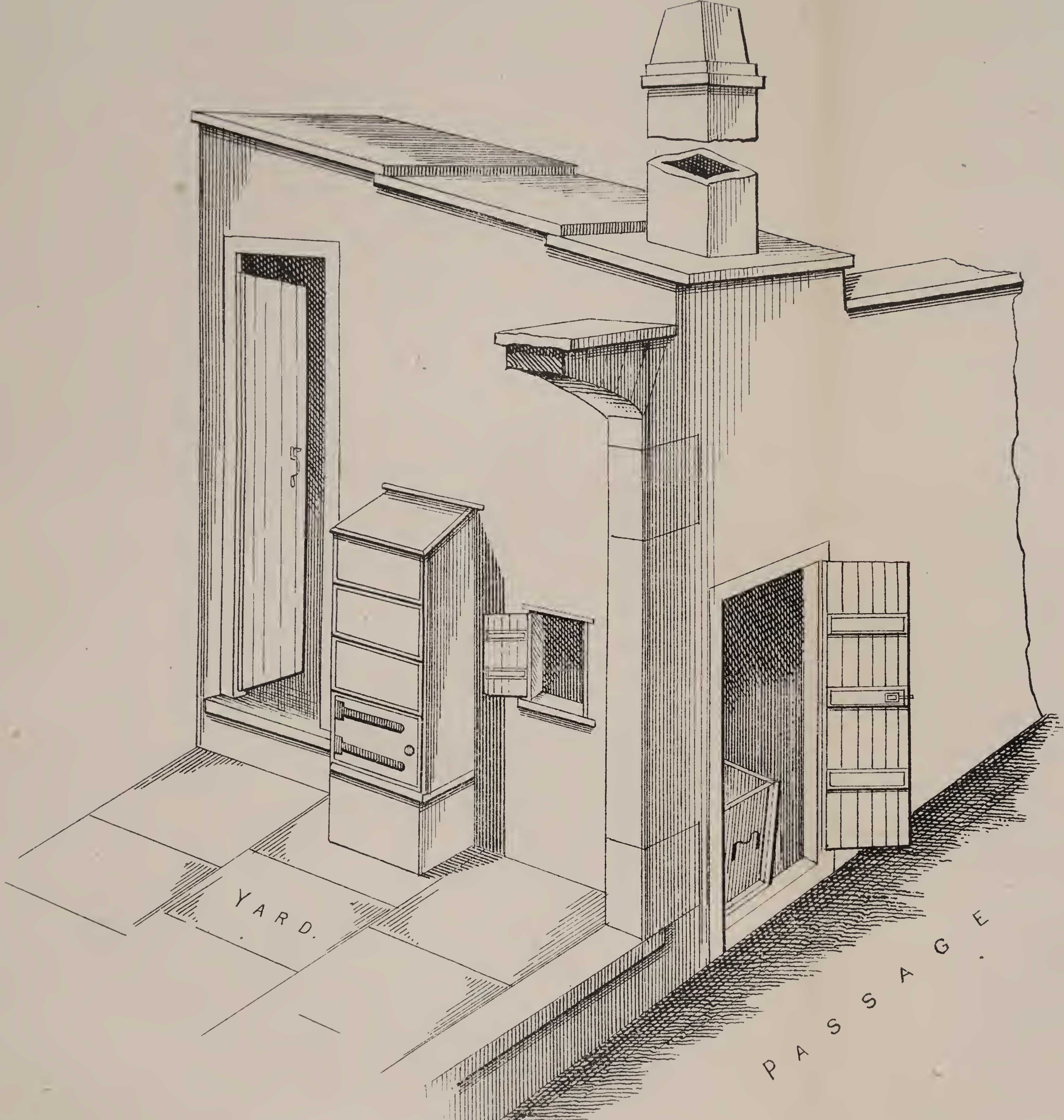
In my last Report a detailed account was given of the duties of the Disinfecting Officers and of the Nuisance Inspectors.

Number of bodies received into the mortuary, 15.

During the last two years all the cellar-dwellings in Manchester have been closed, with the exception of 108 which have been placed on the reserve list, being occupied by very old people who have dwelt in them for many years. On the decease or removal of these persons the cellars will be closed. The reduction of the number of cellar-dwellings within the last four years will no doubt, to some extent, account for the lessened mortality from diseases of the lungs.

In consequence of the difficulty of keeping the cellar areas clean, the Corporation has undertaken, whenever requested by the owners to do so, to fill up the areas and to cover the surface with flags at its own expense. During the years 1872-3 the areas of 136 cellars have been filled up and flagged over by the Paving Committee, with great improvement to the wholesomeness of the houses above and to the streets in which they are situated.

Within this period also the fine range of Abattoirs in Water-street has been completed and opened for occupation, and already one-half of the slaughter



ELEVATION OF MANCHESTER DRY ASH CLOSET.

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houses included are tenanted. There is considerable advantage in having as many of the slaughter houses placed together as possible, on account of the facility for the removal of refuse, and the prevention of drainage into sewers underlying a populous district. The animal fluids which must more or less pass into the drains from all slaughter houses rapidly run, especially in summer time, into putrefaction, and give off gases which are injurious to health. I have visited a very large number of private slaughter houses, and I have found them as a rule kept remarkably clean, much more so than they were a few years ago. Some, however, have been dirty and ill-kept, and being closely surrounded by dwellings, have been closed.

During the past two years, also, the privy and ashpit system has received its full development. Properly speaking, however, both privy and ashpit have been abolished so far as the operations of the Health Committee have been carried out. More than 4,000 of the horrid cesspools which infected the air of Manchester and filled its courts and back streets with fever cases, have been emptied out, the underlying black and saturated soil removed, and the cavities filled up level with the courts, streets, and passages. All communication between the new closets and the drains has been closed, so that nothing can find its way from the closets to the sewer system. Tubs or boxes have been provided for the reception of all house refuse, such as broken earthenware, old boots and shoes, vegetable and animal matters, slag and bass from coal, and other such matters, whilst galvanized iron receptacles have been placed under the closet seats for the reception of the excreta. The latter are to some extent deodorised from day to day by the action of an apparatus which works without any automatic machinery, requires very little care or trouble, and is not expensive. By this apparatus the fine ash removed, with partially-burned cinders, &c., from house grates is sifted and delivered over the excreta. Flues are constructed to improve the ventilation, as in the earlier arrangements. The receptacles containing excreta and fine ash are removed once or twice a week, or as often as may be necessary, covered with tightly-fitting lids, and clean ones put in their places, the rubbish boxes being at the same time emptied. The receptacles are conveyed away in specially constructed vans, and so little offensive is the process, that although the whole operation is conducted in the day time, no annoyance is created nor is anyone conscious from any smell of the passage of the vans.

The sifting apparatus, as furnished to houses provided with yards at the back, delivers the unburnt cinders back to the occupier, thus making practicable a considerable saving in fuel; and so largely is the quantity of matter requiring to be removed by the Scavenging Committee reduced by the system, that whereas during the fortnight ending February 24th, 1873, the quantity of "rubbish" removed from ashpits amounted to 3,504 tons, in the fortnight ending February 24th, 1874, it amounted to only 2,775 tons, a diminution of 729 tons within so short a time as two weeks. It is reasonable to suppose that in twelve months from this time it will be reduced by an equal amount. Of necessity, as the reconstruction of the closets advances and they are brought closer together, the time required in emptying the rubbish boxes and conveying the receptacles will proportionately diminish, and relatively, seeing how much smaller a quantity of matter will have to be removed, a smaller number of men, horses, and conveyances be required. Looking, however, to the great value which can be given to the materials removed, and which will no doubt very shortly more than pay the cost of their removal, the diminution in the quantity will become less a subject of congratulation. The excreta, mixed with the fine ash and the ammonia resulting from the decomposition of urea, suitably fixed, make a manure superior in all the elements required for fertilization to almost any other except guano. Old boots and shoes, pieces of woollen cloth, and animal matters of this kind can be sold to the prussiate of potash makers,—the old tin cans and old iron in all forms to the copperas makers, the paper to the paper makers, and all the rest, including broken earthenware, &c., mixed with sand and lime, can be ground down into excellent mortar. All this has been recently done at the yard of the Health Committee. Fifty tons of excellent manure have been made, and an equivalent amount of mortar, from the refuse of houses and closets.

By the mode of treatment adopted, the excreta are so completely and so instantaneously deodorised that all offensiveness from them is at once destroyed, and thus one of the greatest nuisances of the city is overcome. It is already clear, however, that the quantity of ash obtainable, so largely will its bulk be reduced throughout the city, will be insufficient for the purpose required, and that we must supplement it with road and street sweepings. These sweepings consist of the dust ground down from the road material by the vehicles passing over it, mixed with horse-droppings, &c. Already enriched by the latter, no better material could be found to assist the fine ashes as an absorbent of urine. Thus of necessity shall we be compelled to use all the ashes and all the street sweepings of the city, and the "tips" so justly complained of will be things of the past, whilst the scavenging of the city will be made to pay its own cost.

The construction of the closets and the erection of the sifting apparatus will be best understood by the appended Specification and Drawings.

Much has been said and written about the attention which has been given by the Health Committee and the Officer of Health to the ashpit and privy question, and it has been intimated that other urgent sanitary matters have been neglected in consequence of a monopoly of attention to this. The former Reports of the Officer of Health, however, will show that this view has not been correct, and that as many sanitary matters have received the attention of the Committee as could well be concurrently carried out. The Committee has only been in existence a little more than five years, and during that time an amount of work has been organized under great difficulties not exceeded in any other city, and a foundation laid for sanitary improvement which must produce an immense result in the future health of the population of Manchester.

CITY OF MANCHESTER.

DETAIL DRAWING AND SPECIFICATION OF PRIVIES.

SCALE 1 INCH TO A FOOT

SPECIFICATION

Of the several works required in the RE-CONSTRUCTION OF PRIVIES.

Foul earth. The foul earth under the old ashpits and privies must be entirely taken out, and at once carted away from the works.

Filling-in. The old ashpits must be filled in where required with suitable dry, hard material, small, and well rammed in level courses not exceeding six inches in thickness.

Ashpit Floors. The floor of the ashpit is to be flagged with a Rochdale flag, not less than three inches in thickness, properly squared and jointed, bedded in mortar, and laid with an inclination of one inch towards the door.

Privy Floors. The floors of the privies are to be flagged or tiled, and laid with an inclination of half-an-inch towards the doors, and raised nine inches from the level of the yards, or eighteen inches from the level of the passage.

Lintels. The lintels carrying the 4½ inches' division walls, between the flues and the privies, must be set flush with the under side of the privy seat.

Cinder sifter from the yard. A side cinder sifter must be fixed to each privy, and in all cases where practicable must be so fixed that the ashes can be thrown in from the outside of the privy in the yard, and pass down the shoot directly under the privy seat, as per Detail Drawing No. 2; but in any case where the receptacle is to be emptied from the front, from under a folding riser and seat, or in other special cases approved of by the Health **Cinder sifter inside the privy.** Committee, then the cinder sifter must be fixed at the back of each privy seat, as per Detail Drawings Nos. 3 and 4.

Refuse frame. Wherever side cinder sifters are fixed a refuse shoot must be provided, or a door 12in. by 9in. (as shown in Detail Drawing No. 2), and hung to frame 4½in. by 1½in. built in, for passing refuse, broken pots, &c.

Privy seat. The privy seats to be fixed on bearers, 2½in. by 2in., let into the flag riser at the front, and secured to the lintel at the back, the depth of the flag from the privy floor to the underside of the seat to be 17 inches.

Folding seat. Where there is no yard space, and a privy is shown underneath a room, a folding riser and seat must be provided (as shown on the Detail Drawing No. 4), firmly braced together by wrought-iron stays, and hinged with strong wrought-iron bands and gudgeons, the gudgeons being either plated and fixed with screws or driven into the lintels which carry the 4½ inches division wall.

Seat cover. Each seat is to have a fall cover one inch thick, hung with 10in. ~~T hinges.~~ Bands & Gudgeons

Privy doors and frames. The doors to the privies must be one inch thick ledged doors, hung to frames 4½ins. by 3ins., with strong wrought-iron bands and gudgeons, and left three inches short at the top.

Ashpit frames and doors. The emptying holes of the ashpits shall be 3ft. 6ins. high by 2ft. wide inside the door frames, or in special cases (approved by the Health Committee) 19ins. square, and built in with the brickwork; the doors to be cross-boarded and finished 1¾in. thick, and hung to frames 4½ins. by 3ins., with strong bands and gudgeons, and secured with a latch approved by the Health Committee; the door to overhang and to overlap half its thickness, ¾in. on three sides on the inside edge of the frame, and to be left half an inch short at the bottom. The bottom of the ashpit is to be three inches above the level of the adjoining passage, and sleepers 4½ins. by 3ins., for guiding the receptacles, must be fixed as shown on the detail drawings.

Receptacles. A galvanised iron receptacle, 15 inches high and 18 inches diameter, together with a wooden receptacle for the cinders, broken pots, &c., 1ft. 10ins. square by 18ins. high, or in special cases 2ft. 6ins. long by 18ins. wide and 18ins. high, may be procured, free of cost, from the Health Committee, at the Town's Yard, 279, Oldham Road, on production of an order for the same.

Urine guide. A urine guide must be fixed underneath each seat with screws.

Ventilating flues. The ashpits must have ventilating flues constructed of brickwork or of earthenware pipes; the size of the flue to be (if square) 9in. by 9in., if of circular earthenware pipes six inches diameter, and carried when practicable up the side of the wall to three feet above the eaves of the house, and secured to the walls with strong bands and clips.

Roofing. The privies and ashpits must be covered with either slated or flagged roofs, well pointed with lime and hair mortar.

Whitewashing. The privies must have two coats of limewash.

Painting. All the woodwork, with the exception of the privy seats, must have two coats of good bodied oil paint.

Yard grids. The yards must each have a trap and grid, placed in such a position that the waste pipe from the slop-stone shall discharge itself on to the grid.

Flagging. All flagging and other necessary work to be done to the satisfaction of the Committee.

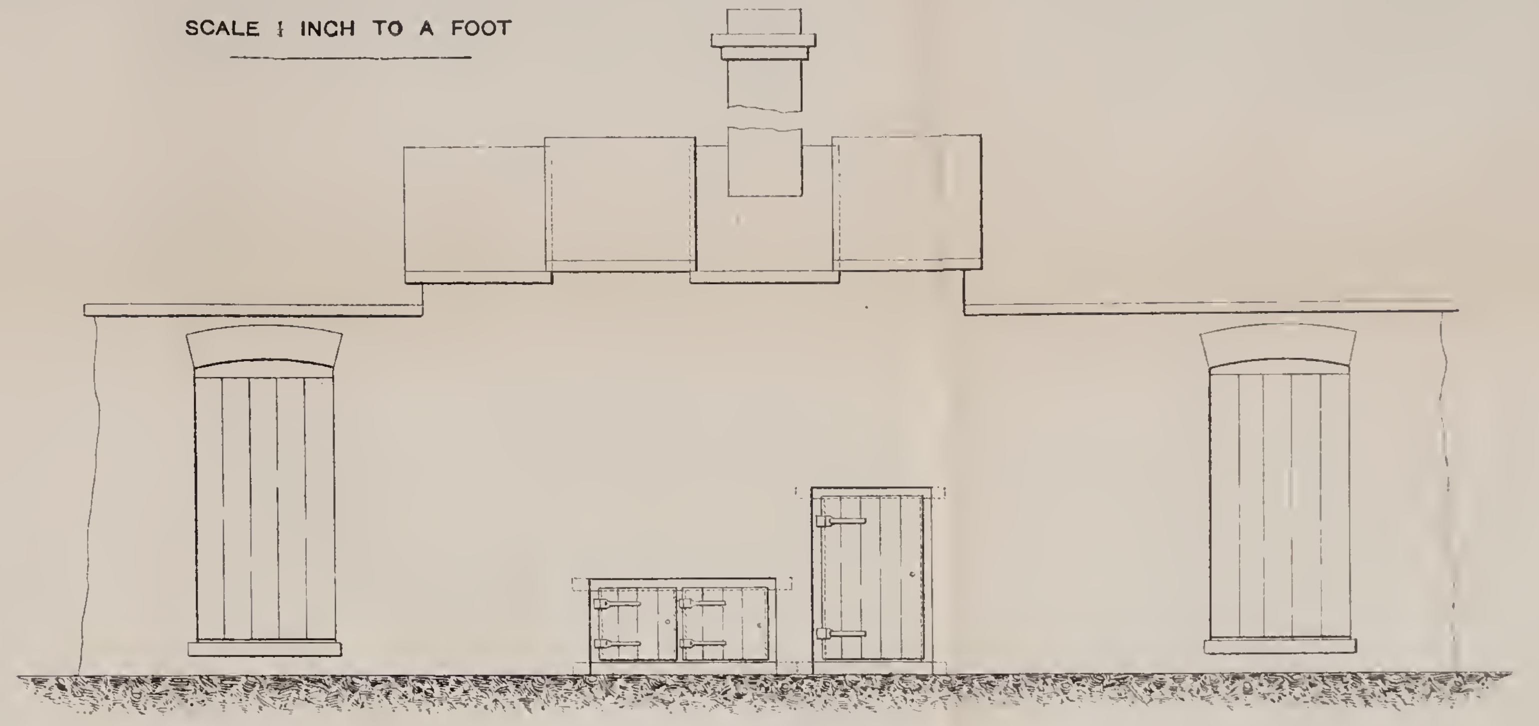
Cinder sifters, &c. Cinder sifters, urine guides, &c., may be purchased from the Health Committee, at the Town's Yard, corner of Osborne Street, 279, Oldham Road, Manchester.

Locks, hinges, &c Patterns of locks and keys, T hinges, bands and gudgeons, grids and traps, cinder sifters, and refuse shoots may be seen at this office, and no other patterns will be allowed.

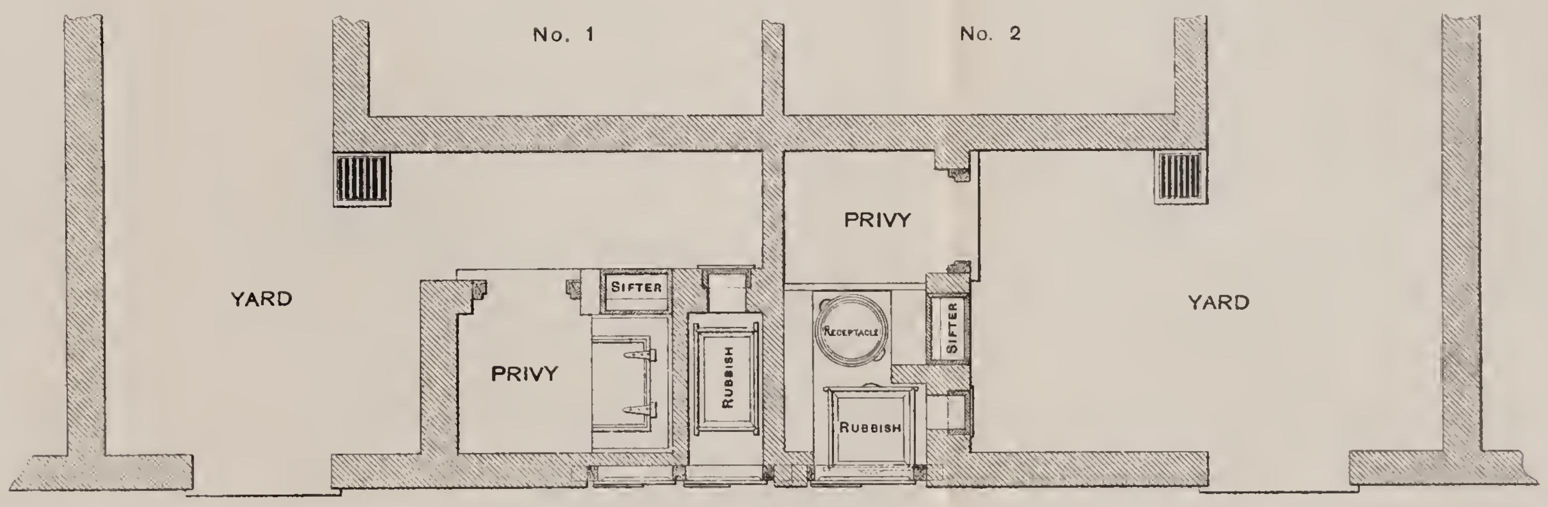
Work to be satisfactory. The whole of the works to be executed to the entire satisfaction of the Officer of Health, and to be certified in writing by him.

Notices to be given. WRITTEN NOTICE must be given at this Office three days before the work is commenced, and also when completed.

Inquiries to be made at the Health Office, York Chambers, King Street.

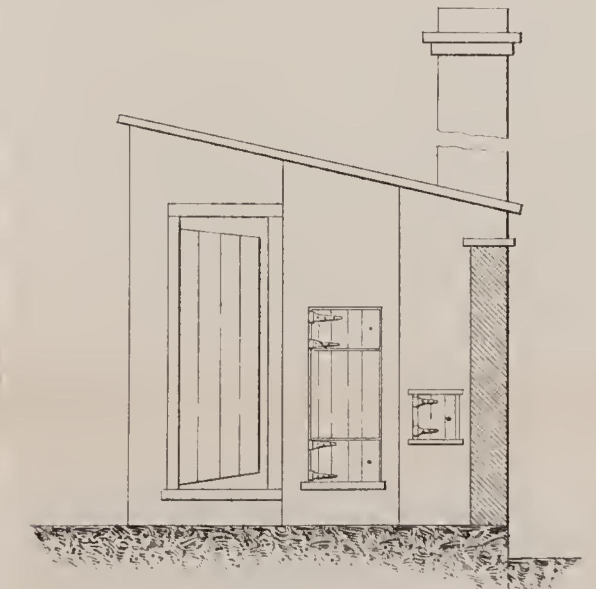


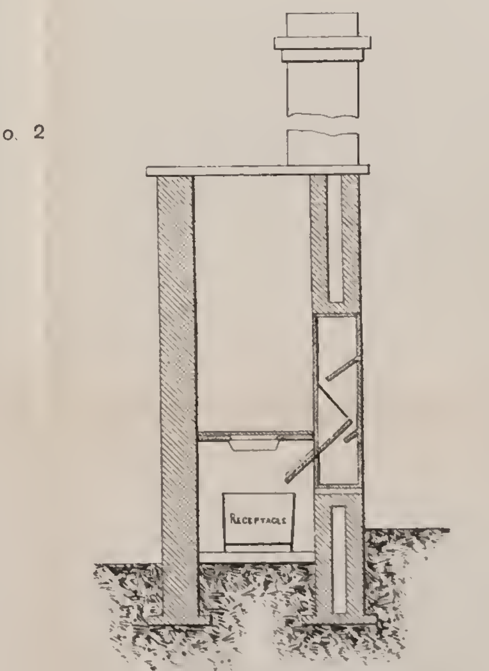
ELEVATION IN PASSAGE



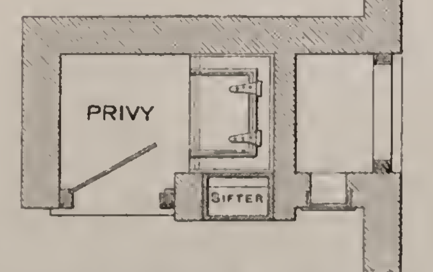
GENERAL PLAN

DETAILS OF No. 2

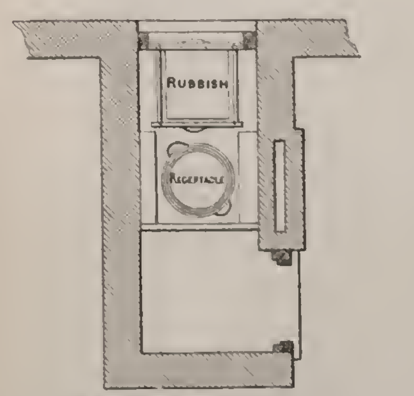

ELEVATION IN YARD



SECTIONAL ELEVATION

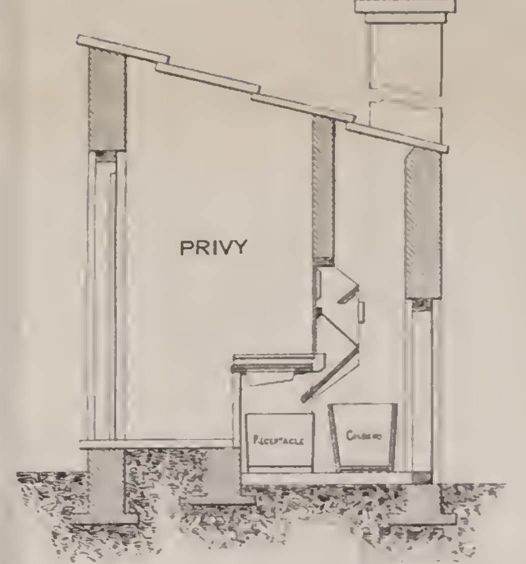


PLAN ABOVE PRIVY SEAT



PLAN OF PRIVY FLOOR

No. 3



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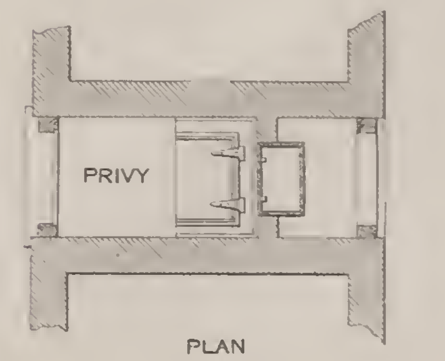
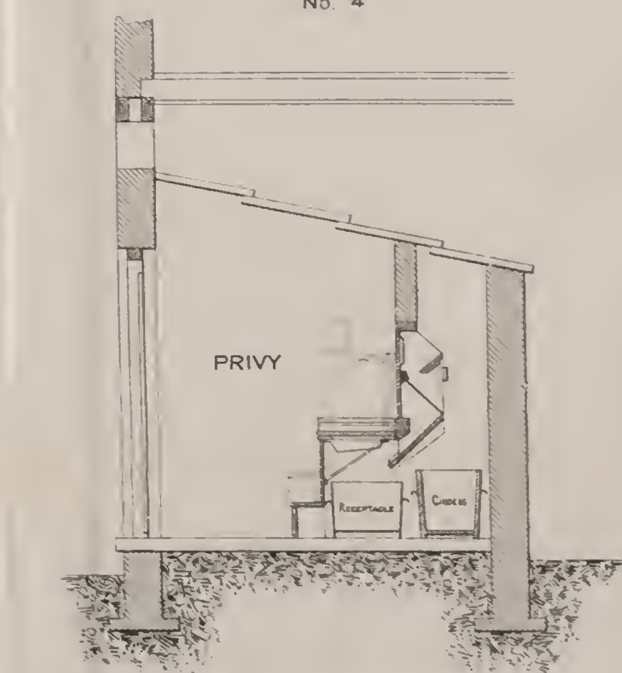
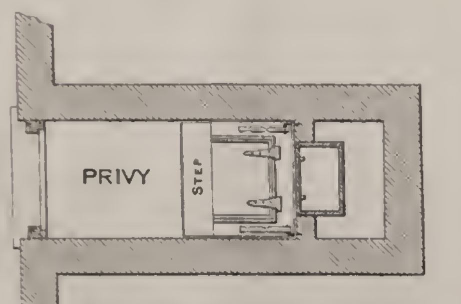


PLAN

No. 4



SECTIONAL ELEVATION



PLAN

G. FALKNER, LITH^R BY STEAM POWER, MANCHESTER

How to deal with the excreta has been a puzzling and pressing problem to every considerable community in the kingdom. We can best realize the magnitude of the evil to be met, and its gravity, if we endeavour in imagination to bring together into one area the whole of the cesspools of the city. Imagine a lake sixteen times the size of St. Ann's-square and about 5 feet deep, in the centre of the city, filled with the contents of the cesspools, seething and fermenting and giving off its mephitic poisonous gases, a semi-fluid mass reeking with the vilest odours, the people dwelling around it pale and emaciated, prostrated from time to time with fever, and dying from its poison at the rate of 600 or 700 a-year. What would be thought of a Committee appointed to improve the health of the city, or of its Officer, who should ignore the existence of this lake, and occupy themselves with a variety of other matters? And yet it was for its persistent determination to empty this lake, to remove its saturated subsoil, and to fill up its area, that the Committee acquired at one time an amount of unpopularity sufficient to repress its energies and to crush its zeal. With a clear perception, however, of its duty, the Committee pressed onwards with its work, foreseeing not only the entire abolition of the monster evil before it, but the possibility of making it pay the cost of its own destruction. Already a great inroad had been made, and as its area week by week diminishes, we see concurrently with its retreating bulk a marked improvement in the health of the people living around it.

The picture, however is but half portrayed. Imagine the lake receiving constant accessions and discharging its surplus a few feet underground by thousands of channels, traversing in every direction the line of the city, running under every house, and discharging its vapours and gases at every outlet. If there is one fact better recognised than another amongst the causes of disease, it is that typhoid fever and diarrhœa are caused by these vapours and gases. With every yard that they advance the Committee cut off one of these outlets, and they see that in a short time the sewers will be left to do their proper work—the conveyance of the water that falls bountifully to wash our city, and that which is liberally supplied to us for the exigencies of ourselves and our households.

Some time ago I caused to be sunk in every township of the city a series of shafts down to the drains and sewers situated respectively in courts, passages, narrow secondary streets, and in the broader primary ones. The greatest accumulations I found in the drains at the backs of houses, in courts, passages, and in narrow streets. Some of the drains in these were quite full of solid matter, others had a few inches of space above the deposit. The sewers in the large streets were as a rule comparatively free, though occasionally a large amount of deposit was found. In all openings made into the drains the extent of deposit was generally the greatest at the highest point, gradually tapering off towards the outfall. Upon examination the deposit was found to consist of small coal, ashes, bits of broken pot, and fœcal matter, cemented by the latter into a strong mortar, which after being allowed to stand for a short time gave off very offensive gases, which bubbled up through the deposit. The matter had in fact all been derived from the ashpits and privies. The two upper figures on the opposite page represent the sections of a drain in Joddrell-street. It will be seen that the drain is nearly full. The contents were as black as the ink in the diagram, and were excessively offensive. The lowest figure represents the section of a drain in a passage behind Collyhurst-road, which had been laid down about eighteen months, and which was not in connection with any ashpit or privy drain, but drained the adjoining houses. The deposit was about three-fourths of an inch of gray silt or sand. Several drains similarly situated in Chorlton-upon-Medlock were likewise opened with a like result.

As a general result it was found that the largest amount of deposit existed in the highest parts of the sewer system,—that is, in the yard, court, and passage drains,—and that where this deposit existed in the largest quantity the most active decomposition or putrefactive fermentation was going on. Indeed, as far as the appearance and odour of the contents of these drains were concerned, there was little to distinguish them from the contents of the old cesspools of the city. As the inclination of the drains or their gradients was not inferior, on the whole, to that of the larger street sewers, it was evidently not to any difference of this kind that the greater accumulation of solid matter was due. The explanation is to be found in the relatively smaller amount of water that passes along the drains than of that which courses through the street sewers. Very generally the flags in the yards at the backs of houses are not so laid as to lead any liquid falling upon them directly to the grid. Many of the yards are in such condition, from sinking and breaking of the flags, that pools of water form within them, the overflow from which runs into the passage; others are simply laid with bricks or paved with stones. The grids themselves are usually very small, and laid almost flush with the flags forming the surface of the yard, instead of being large and well sunk, so that they are little calculated to intercept and carry off any liquid, whether rain or household water, that may fall on the surface. The general inclination of the yards is rather to the passage doors than to the grids. The down-spouts that receive rain water from the roofs are but rarely connected with the drains; they are for the most part in very bad condition, and terminate a few inches from the surface of the yard. The consequence is, that whilst in wet weather they flood the yards and passages, they contribute nothing to that flushing of the drains which ought to be one of their chief functions. The street sewers, on the other hand, are assisted with the whole rainfall of the city, together with that large quantity of water which is brought from without for domestic and other purposes, and which ought to find its way to them through the intervening narrower drains.

The disconnection of the ashpits and privies of the city with the drains will prevent any addition of solid matter to the drains of a similar character to that which now occupies them, and it is obviously possible, whilst preventing by ashpit alteration any increment of the deposit, ultimately to sweep it all away

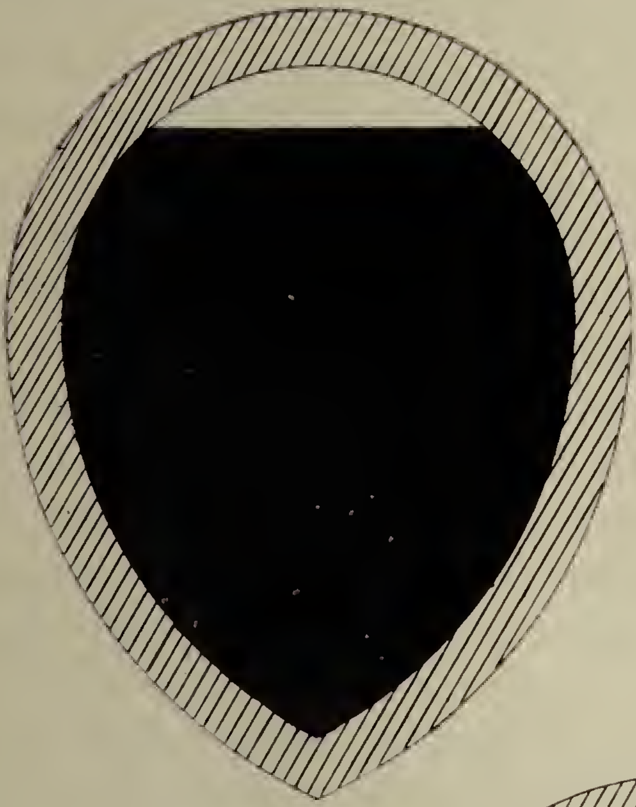
SECTIONS OF SEWERS,

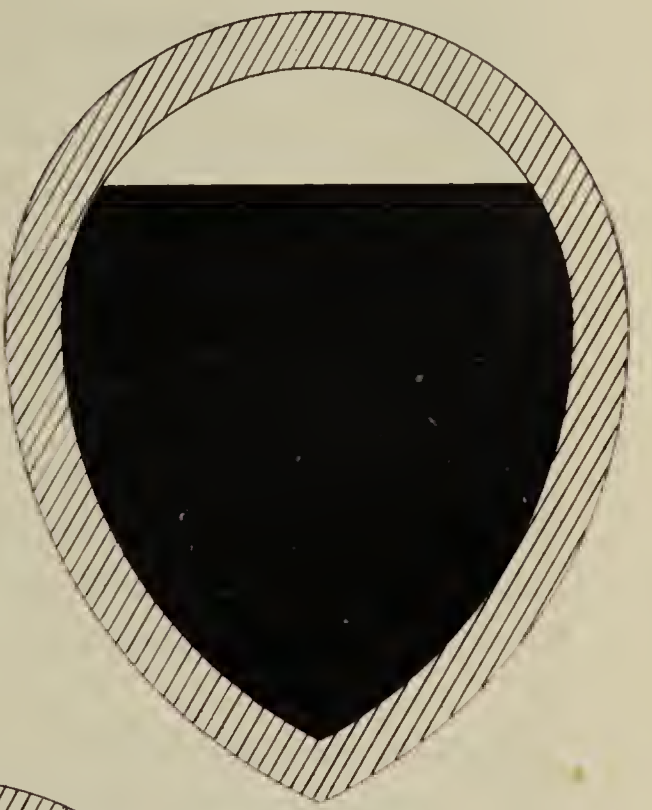
No. 1. PASSAGE JODDRELL STREET,

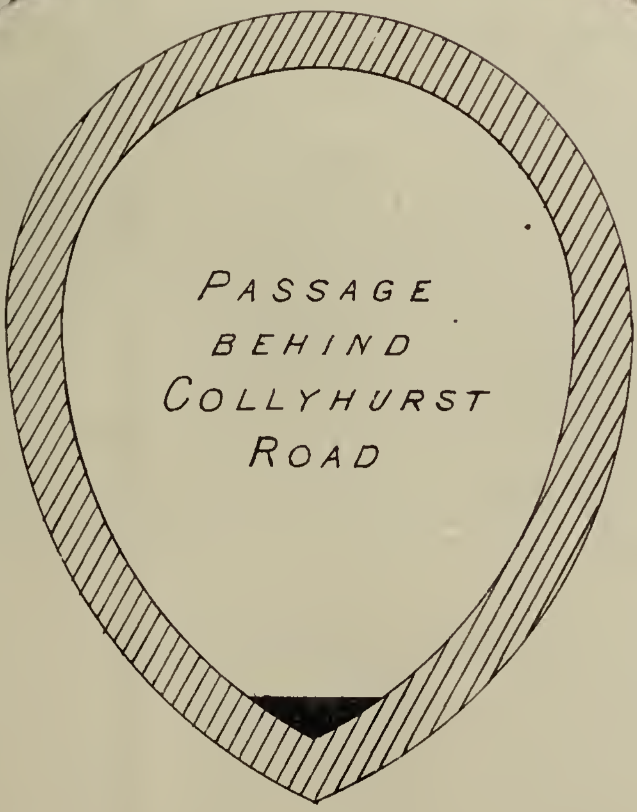
DEANSGATE.

12 × 9

BAD SMELL,
GOOD FALL.







Co-operative Printing Society. Limited. Lithographers, Balloon St Manchester.

by proper flagging of yards and passages, the laying of large and suitable grids in sufficiently sunk positions and at the lowest points, and by making a thoroughly good connection, by continuous piping and air-tight joints between the yard drains and the down-spouts or rain-spouts, the sound condition and material of which latter ought also to be insisted upon. Nevertheless, where the drains are entirely blocked up with deposit, as was found to be the case in several parts of Hulme, in some instances through the entire length of the drains, it will be necessary to clear them out in the first instance.

Although the present deposits in the drains consist almost entirely of matters derived from ashpits and privies, the putrescent character of which must greatly aggravate the offensiveness which all sewage possesses, and must increase the amount of gases liable to be evolved, yet an examination of the sewage contained in drains which have had no connection with ashpits or privies (having been laid down under the new conditions) has shown that, even with the matters from these excluded and where the sewage is almost entirely liquid, the latter is still very offensive in character. The nitrogenous fluids constituting the liquid refuse of a household coming into contact in the drains with matter already in a state of putrefactive decomposition, readily and very speedily take on that action with evolution of the gaseous matters which make the process so offensive to the senses and so injurious to health. The process takes place most readily and most rapidly where the fluids are most stagnant, where least frequently diluted with fresh and oxygenised water, and hence in the drains which constitute the highest portion of the sewer system. More active decomposition will take place in the yard, court, and passage drains than in the active currents in the street sewers.

From the temperature of the sewers and the nature of the gases eliminated therein, these latter can have no tendency to pass downwards in the sewers. On the contrary, they must have a tendency to ascend in whatever part of the sewer system they may be developed. Not only, then, are these gases generated, as shown above, in the largest quantity in the highest portions of the sewer system, but their tendency is to remain there, receiving increments from below, yet seeking outlets at the points of least resistance. Not unfrequently these points are within or in the immediate vicinity of the houses themselves, and a constant and insidious escape takes place of poisonous effluvia, which gradually undermine the health of the occupants, or by some sudden ebullition under depressed atmospheric pressure prostrate them at once with fever, diarrhœa, or other serious disease.

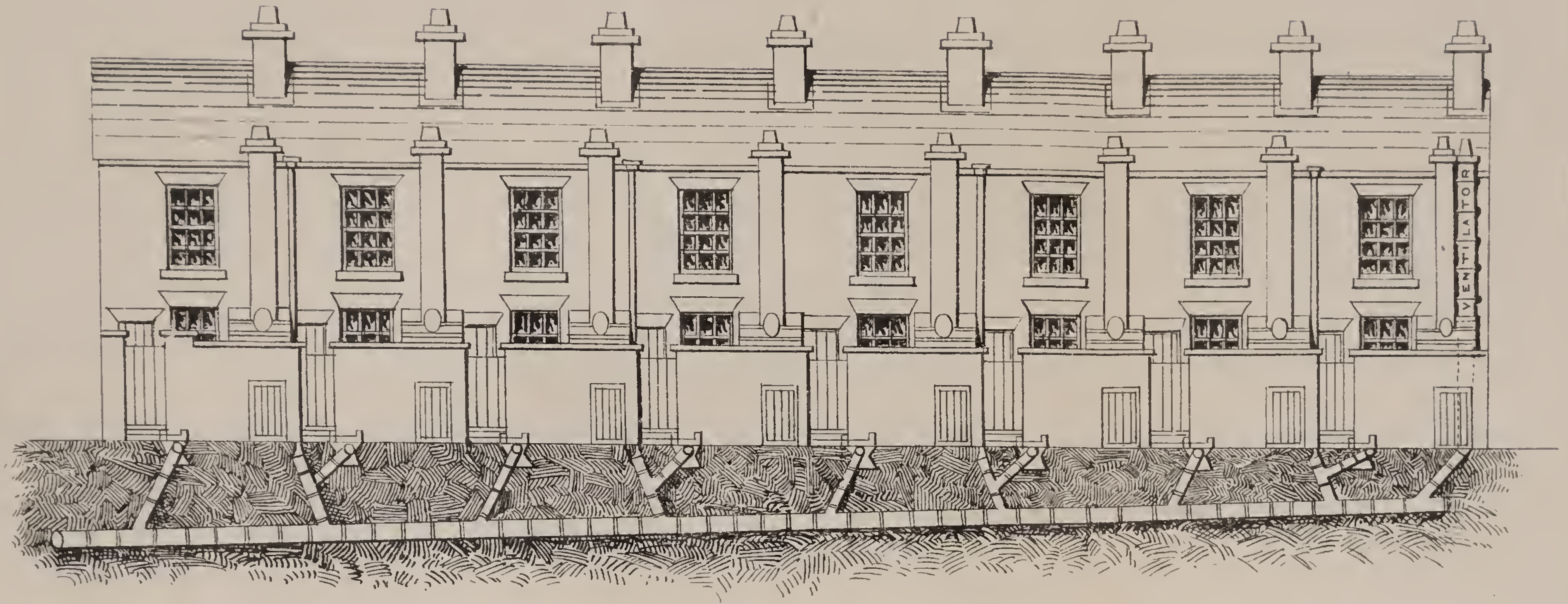
It is necessary, then, that outlets be afforded to these gases or to the surcharged sewer atmosphere at points where escape can most readily be effected. Sufficient has been said to show that these outlets should be given at the highest parts of the sewer system, and it is desirable that the gases should be delivered at an altitude sufficient to bring them within the influence of atmospheric currents well above the houses, to whose occupants they would otherwise be injurious.

The ventilation of the yard drains may be effected by the rain-spouts, if in good condition and properly connected with the drains. The condition of the rain-spouts is important. At the present time some of these are of wood, their joints started, the wood rotten, and the spout porous its whole length; others are of iron, in many the joints set the wrong way, the connecting cement gone, the joints therefore open, and the iron in many parts of its length oxidized into holes. It is clear that with such rain-spouts as these the gases would never arrive at the top, but would be delivered at all intermediate points, and finding their way into bedchambers, would be productive of evil. The pipes must be in good condition their whole length, be carried well up to the eaves of the houses, and be properly connected with the open horizontal spout receiving the rain-fall from the roof. The rain-spouts in good condition and properly connected, will not only ventilate the yard drains, but will also during heavy rains flush out their contents, and the solid deposits will be gradually removed. The yards themselves ought to be put into proper condition, and sloped in every direction to a sufficiently large and well-constructed grid and trap in connection with the drains. At the highest termini of the sewers or of the passage drains ventilating shafts or pipes should be constructed, and carried to a sufficient elevation above the houses, so as to expose the upper outlet of the shafts or pipes to the action of atmospheric currents.

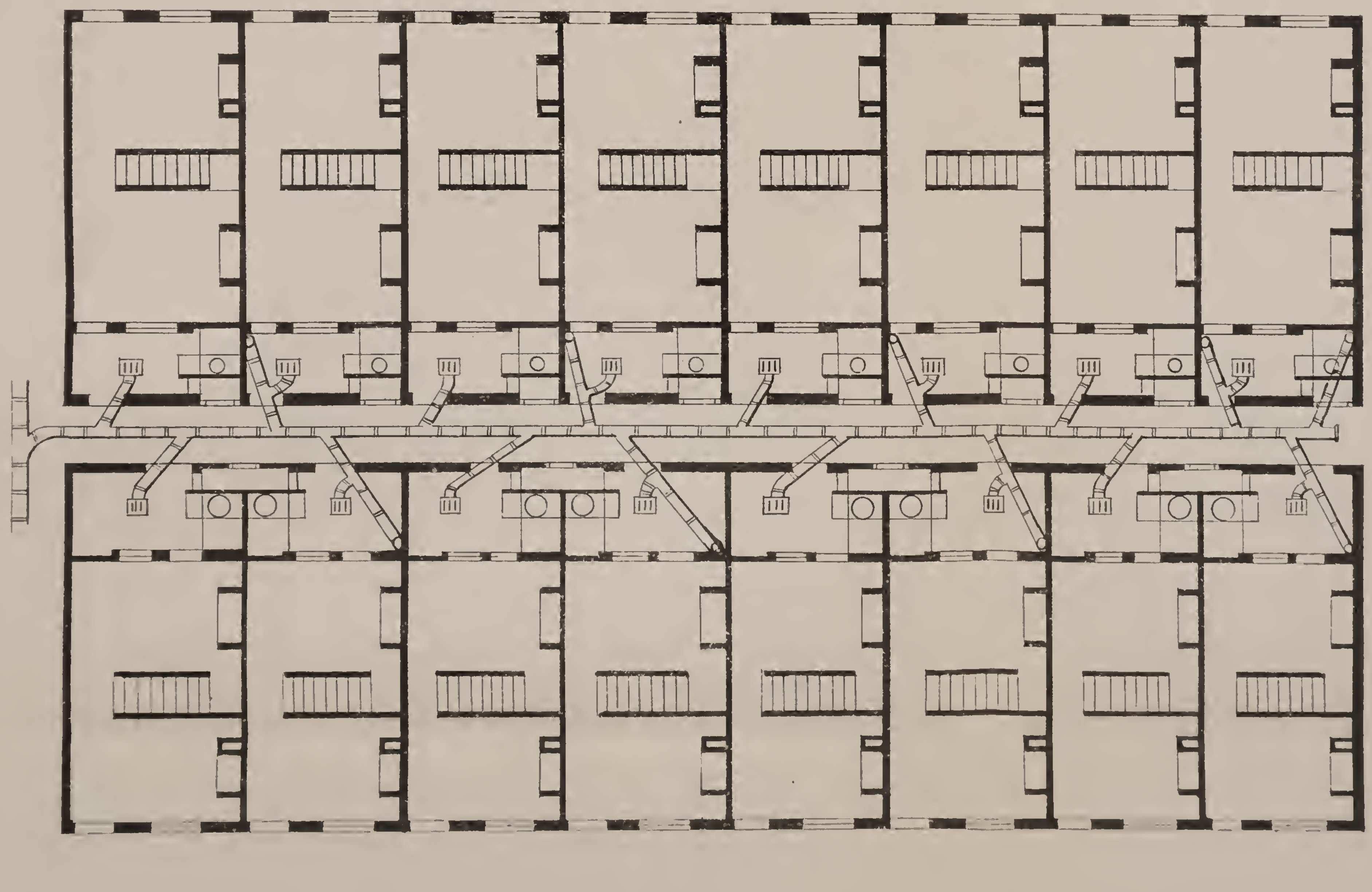
In the engraved "Plan of Drainage" the upper figure exhibits a passage drain with its ordinary inclination, receiving in its course the smaller drains from the adjoining yards, and terminating at its highest point on the right-hand in a wide ventilating shaft. The ground Plan exhibits the yard drains more in detail. In the upper figure the ventilating closet-shaft is also exhibited. Not only will the terminating shaft of the passage drains give free vent to any gases generated therein under ordinary circumstances, but in case of heavy rain it will allow of the displacement of air by the inrushing water as the readiest outlet.

The houses have no immediate connection whatever with the drains. These terminate at the trap in the yard and at the rain-spout. All sink-pipes from the houses are taken through the walls and cut off five or six inches from the level of the yard, or they may be bent to an angle and taken nearer to the surface. It is recommended not to bring the sink-pipes directly over the grid and trap, but to let them terminate a little distance therefrom, so that by no possibility, in case of the trap becoming short of water, can any gases find their way up the sink-pipes into the houses. It is on this account that the grids in the ground plan are shown not near the back wall of the houses, but near to the centre of the yards. So far as my observations of the sewers underlying Manchester have extended, the largest sewers are the most free from deposit. In many parts of the city the fall is considerable, and the rush of water is suffi-

PLAN OF DRAINAGE.



BACK ELEVATION OF HOUSES.



GROUND PLAN.

cient to carry forward the solid particles that find their way into them from the smaller sewers and drains. There is great difference, however, in this respect. In Hulme and Chorlton-upon-Medlock much of the ground is very level and the gradients small, so that the velocity and carrying power of the sewage water is more limited. Nevertheless a considerable volume of water filters through the deposits, and if it does not bear onwards as much of the solid matter as might be desired, it yet dissolves out and carries with it a considerable amount of the gases generated in the substance. Hence it is, I conceive, that the air contained in large sewers is comparatively so little offensive. This condition of the large sewers has an important bearing on the question whether they should be trapped or not. If gas of no very injurious quality would escape from the street openings, there is no special reason to trap them, whilst it is certain that the free ingress of air at many points would, under considerable barometric oscillations, tend to press forward the gases in the upper parts of the system, were free outlets afforded them. I am of opinion, therefore, that the openings to the larger street sewers may be left untrapped, but that the gases from the upper part of the system should be conveyed away by shafts carried as high as can conveniently be done. Several times since I have been Officer of Health I have found whole streets affected with typhoid fever from the escape of sewer gases by untrapped openings in the smaller streets. As they were "back-to-back" houses, there was no connection between the houses and the drains.

What to do with the sewage itself is a question that must very soon engage the attention of the Corporation. The character of the sewage in Manchester is undergoing a rapid alteration by the diversion from it of all drainings from privies and ashpits. Over a great part of the city it is becoming less fœcal, less nitrogenous, less putrefactive. It probably contains less solid matter in suspension, less gelatinous and albuminous matter in solution. Could this be general, the sewage, consisting ultimately of rain water and house-slops mainly, might be easily dealt with. But though Manchester is not a water-closet town, yet there is a sufficient number of water-closets polluting the sewage to render special treatment of this necessary. It will be interesting to learn what has been done with the sewage of other towns. This may be done from a "Return of the Names of Boroughs, Local Boards, &c., which have, through Loans, provided Sewage Farms or other means for the Disposal of Sewage," a paper presented to the House of Commons in the last session, and of which a very good abstract is given in the "Journal of Gas Lighting, Water Supply, and Sanitary Improvement," of January 13th, 1874:—"As regards sewage farms, "the return shows, among other things, the acreage per 100 of population, the "character of the soil, the cost of the land and of laying out, the expenditure "during the last year for which the accounts were audited, and the receipts for "the same year. The names of forty-four local authorities having sewage farms "in England are returned, and it is curious to note the utter want of uniformity "in their plans. Much discussion has taken place among authorities on the "subject as to the quantity of sewage that can be profitably utilized on an acre "of land. After thinking that sewage of average dilution from two persons was "sufficient for an acre, Mr. Mechi finally came to the conclusion that 12 persons "to the acre was a proper proportion. Mr. Hope says 20 or 30, and others are "of opinion that sewage to yield a profit must be used in large quantities, and "that from 5,000 to 7,250 tons per acre, which represents the sewage from 100 "and 150 persons, is not too much. According to this return the quantity of "land actually in use for 100 of population varies from 62½ acres at St. Nicholas "to 8-100ths of an acre at Swaffham. The average quantity is perhaps a little "under an acre to the 100. The character of the soil differs, of necessity, and "thus we find sewage farms on every variety, from stiff brick clay to very porous "sand, these two being of course the very worst for irrigation.

"There is one point, however, on which the return shows almost absolutely "uniform results, and that is the actual loss on the farms made at all events by "the local authority. There are only three instances given in which the receipts "exceed the expenditure for the year, and from the expenditure we exclude the "money spent on repayment of loans. The most fortunate place appears to be "Warwick, but in this case the amount stated as receipts for the year includes "an estimate of the value of standing crops. Swindon Old Town seems to have "made a small profit on one farm. The rent of the Wolverhampton Farm more "than covered the expenditure of the year, but still it is only 2½ per cent. on the "loan, which the Corporation probably contracted at 4 per cent. At Croydon "the Local Board appear to lose by the farms, and we know that the lessee of "one made a heavy loss. So far, then, sewage farming appears to yield very "unsatisfactory results to local authorities. But this must be said,—most of the "undertakings are very young, and the art of applying sewage to the best "advantage may be as yet ill understood. The oldest scheme in the country "appears to be at Wilsden, where the sewage has been used to irrigate meadows "or pasture land for thirty-five or forty years, and there the Local Board "receives nothing and pays nothing. The next oldest is Croydon, where the "farms have been in operation ten and fourteen years; but the majority of the "farms have only been in existence two or three years. Few complaints of "nuisance have been made, but with our knowledge of several of them we cannot accept this as proof that no ground of complaint existed.

"Plans for the filtration of sewage, in order to render it inoffensive, recommend themselves to local authorities by the comparative inexpensiveness of "the works, and we find that fifty-four local boards have adopted this mode of "purification. The arrangements for the filtration are various. In some cases "it is clear that the so-called filters are little better than subsiding tanks; but "in others, if the materials said to be employed are properly disposed, filtration "should be produced. In any case, however, there seems to be no hope of "making a profit by this mode of treatment. Sewage deposit evidently does "not command a sale. At Ulverston, with a population of 7,607, the year's "sale produced £25., the works having cost £8,400., and the expenses of the "year being £35. At Fareham, with a population of 5,000 within the drainage "area, the deposit sold for £7., and at Morley, population 9,607, it produced "£6. At Lostwithiel, a small place and badly circumstanced, the sale of the "soil brought eighteenpence in four years. In sixteen cases no receipts at all "are stated. At Southam, population 1,785, and evidently good filtration, "the receipts amounted to £101., and the expenses were only £45. The "sanitary results of this mode of filtration appear to be fairly good. Not many "complaints of nuisance from effluent water have been made, and they do not "appear to have been serious.

"The last we have to notice are plans for the treatment of sewage with pre-"cipitants which have been adopted by 30 local boards. Under this head we "have again places returned where it is clear only reservoirs for subsidence "have been provided; but in the other cases real precipitants are employed, "and in most instances lime alone is used. Precipitation by means of lime "has been longest in use at Leicester, where the works cost originally £30,000. "They were made over to the Local Board for nothing, so no interest has to be "paid for borrowed money. The expenses of the year were, however, £1,670., "and the receipts £259. At Luton, where lime, with some chloride of lime, is "used, the works cost £4,250.; the expenses of the year were £490., and the "receipts £34. 13s. 6d. At Alton the Local Board appears to have spent "£65. 2s. 8d. on labour, lime, and perchloride of iron, to obtain £3. 14s. At "Tottenham the Board spent £609., and received £45. These, we are sorry "to say, are fair examples of the financial results of the treatment of sewage "with precipitants, and so far they are not encouraging. The sanitary results "appear to be better. Only two instances of complaint of the effluent water "are returned, and one is characterised as slight. The expense of works "adapted for this mode of treatment does not appear to be greater than the "cost of filtering apparatus."

These are the three modes of treating sewage, and hitherto none of them, as a rule, has been profitable. The sewage of a water-closet town, as it contains all the excreta of the population, may under favourable circumstances be valuable for irrigation, and under good management may possibly be made profitable; but as all, or nearly all, the fertilising constituents exist, not in suspension, but in thorough solution, and cannot be precipitated, it is impossible that by the process of filtration or precipitation any solid product or residuum can be obtained which will have a high manurial value, or will pay by its intrinsic value the cost of its separation. I say intrinsic value, because I believe that any considerable fertilising qualities (if such have been found) in matters hitherto separated from sewage have been given to such matters by substances superadded to them or contained in the precipitants themselves, where precipitation has been adopted. The fertilising elements of sewage are ammonia, phosphoric acid, and potash, and they exist in the sewage as salts of these. They are excessively soluble, and cannot be precipitated chemically from the sewage, nor be mechanically separated. What, then, can be the worth of the material separated either by filtration or by precipitation? The small quantity of undecomposed gelatinous or albuminous matter can never alone make such processes profitable.

If this be true of a water-closet town, how emphatically must it be so of a dry-closet town such as Manchester. It is true that we have some water-closets, but their number is small compared with that of the privies which are undergoing rapid conversion into dry closets. The sewage has hitherto no doubt derived some most obnoxious fertilising materials from the drainings of the privies; but in the sanitary interests of the inhabitants these privies are being abolished, and nothing from them will find its way to the sewers, which will eventually contain nothing in addition to what may be contributed by the water-closets but house slop-water and rain-water, plus some matters injurious to vegetation derived from manufactories. It is quite clear that whatever there is of value in sewage, whether treated by filtration or precipitation, passes off with the effluent water. It is, then, I think, utterly improbable that any of the modes of treating the sewage of a dry-closet town which have hitherto been proposed can be profitably carried out; and it has become a question rather at how little cost the sewage can be made fit to be turned into rivers or spread over the land, than of profit. We have no information yet of the effects of turning sewage upon moss land. Peat possesses great deodorising power, and there are great breadths of it near to Manchester resting on porous sand, which if well and deeply trenched would at least filter and deodorise the sewage, and run it bright, clear, and sparkling into the adjoining rivers.

The chief cost attending the system of precipitation, after the construction of the necessary works, is in the removal of the precipitated matter from the tanks and the subsequent drying of it. It is important, therefore, to use precipitants which shall be rapid in action, and produce a very small depth of deposit in excess of that which would be formed by the suspended matters themselves contained in the sewage, so as to reduce the labour to a minimum.

For details of the work of the Health Committee, and the organisation under which it is effected, I must refer the new members of the Council and the public to my last Report, presented January 19th, 1872.

I have the honour to be, Gentlemen,
Your obedient Servant,
JOHN LEIGH, M.R.C.S.

February 27th, 1874.

TABLES

ILLUSTRATING THE SANITARY MAP

OF THE

CITY OF MANCHESTER:

EXHIBITING, IN EACH REGISTRATION SUB-DISTRICT,
THE NUMBERS OF THE ENUMERATION DISTRICTS;
THEIR AREA; ALTITUDE; DENSITY OF POPULATION;
AND RATE OF MORTALITY.

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF ANCOATS.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	1·954	161	20	2·975	185	38	7·747	154
2	1·822	161	21	3·750	189	39	1·756	153
3	1·822	163	22	4·318	192	40	3·347	154
4	1·262	167	23	2·665	189	41	2·458	154
5	1·845	168	24	5·681	192	42	4·183	161
6	9·142	173	25	13·883	140	43	1·861	167
7	1·570	162	26	8·987	149	44	1·735	164
8	1·566	163	27	11·983	154	45	2·509	164
9	5·026	165	28	2·216	150	46	2·137	171
10	1·252	165	29	11·776	163	47	2·685	161
11	4·090	165	30	3·099	171	48	14·150	162
12	7·446	164	31	3·719	163	49	19·338	170
13	3·863	175	32	2·664	164	50	54·958	170
14	2·885	169	33	3·015	165	51	3·491	170
15	4·636	176	34	11·305	169	52	3·067	177
16	2·882	181	35	8·925	158	53	2·546	170
17	2·603	176	36	1·948	160	54	4·545	181
18	3·502	171	37	2·066	149	55	3·068	181
19	3·362	185						

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS. REGISTRATION SUB-DISTRICT OF ANCOATS.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	293·7	45·2	37·8	29	108·3	25·8	29·6
2	382·0	30·2	40·0	30	351·4	22·0	31·8
3	357·2	35·3	41·6	31	275·8	19·4	26·9
4	740·8	26·7	35·8	32	457·2	31·1	35·6
5	430·8	46·5	42·8	33	285·8	22·0	29·4
6	105·0	30·2	33·3	34	88·5	35·9	36·4
7	483·4	28·9	37·0	35	85·1	19·7	32·3
8	465·5	34·2	38·0	36	407·1	30·2	32·5
9	116·7	30·6	36·9	37	225·0	38·7	39·8
10	560·7	45·5	40·3	38	121·8	21·2	35·1
11	294·3	39·8	31·8	39	568·9	38·0	37·5
12	146·7	34·7	39·1	40	212·4	26·6	31·8
13	341·6	36·3	40·7	41	196·9	37·1	45·9
14	416·3	44·9	35·7	42	204·1	24·5	33·6
15	198·4	29·3	30·9	43	301·9	49·8	45·3
16	317·8	31·6	31·4	44	479·5	42·0	38·1
17	332·6	41·5	31·2	45	320·0	18·6	39·8
18	182·7	40·6	37·1	46	402·9	38·3	29·7
19	281·6	19·0	28·2	47	392·1	32·2	32·0
20	314.2	36·3	33·5	48	76·5	29·6	33·8
21	321·5	29·8	28·6	49	76.7	22·3	27·8
22	272·1	18·7	27·1	50	28·0	15·5	17·7
23	455·9	27·1	30·2	51	333·4	25·7	31·9
24	220·9	23·1	27·8	52	287·8	19·1	19·3
25	72·5	21·8	28·9	53	355·4	25·4	32·4
26	126·3	21·1	24·6	54	289·5	26·5	31·3
27	108·4	18·4	23·4	55	344·1	20·8	19·9
28	406·1	11·1	27·6				

Table of Areas and Altitudes of Enumeration Distrcts in the Registration Sub-Ditsrict of Deansgate.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	2·789	110	15	42·691	87
2	0·991	116	16	6·115	132
3	2·752	94	17	13·349	128
4	1·921	110	18	2·169	121
5	2·727	97	19	1·566	118
6	1·441	102	20	1·467	115
7	1·518	108	21	5·196	122
8	2·649	98	22	1·272	123
9	2·324	89	23	1·557	119
10	3·933	111	24	5·417	118
11	14·777	90	25	1·900	100
12	1·568	113	26	1·857	106
13	2·756	115	27	3·801	100
14	15·738	110	28	58·232	119

Rate of Mortality in the respective Enumeration Districts. Registration Sub-District of Deansgate.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	160·2	40·2	49·2	15	47·1	30·2	31·7
2	399·5	42·9	37·8	16	135·4	35·0	46·7
3	319·7	26·1	38·3	17	40·1	37·3	39·5
4	511·7	18·5	34·2	18	447·2	25·7	40·8
5	293·7	30·0	27·9	19	421·4	36·3	44·3
6	437·8	31·1	39·4	20	532·3	25·6	34·4
7	391·3	40·4	37·2	21	206·6	40·0	35·9
8	259·7	27·6	26·3	22	712·2	17·6	35·5
9	390·7	28·6	28·3	23	511·8	28·6	39·7
10	170·8	25·2	27·5	24	138·2	18·5	26·3
11	59·8	27·1	23·3	25	443·1	24·9	35·1
12	450·2	23·1	25·3	26	396·8	14·9	20·6
13	411·8	23·7	29·7	27	98·9	34·6	56·6
14	131·8	23·1	28·3	28	19·1	24·2	37·1

Table of Areas and Altitudes of Enumeration Districts in the Registration Sub-District of London Road.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	4·004	118·0	12	4·559	154·0
2	9·730	114·0	13	16·268	137·0
3	2·365	135·0	14	10·785	139·0
4	4·984	132·5	15	4·872	142·3
5	17·317	129·5	16	6·016	131·0
6	13·016	147·0	17	3·193	129·0
7	5·730	138·5	18	11·969	132·0
8	14·282	124·2	19	13·493	145·0
9	1·735	121·0	20	18·718	157·0
10	2·090	131·0	21	5·003	150·0
11	2·971	153·2	22	8·619	159·0

Rate of Mortality in the respective Enumeration Districts. Registration Sub-District of London Road.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	178·5	33·5	33·5	12	360.3	25·5	36·1
2	55·9	20·2	37·8	13	61·1	22·1	70·0
3	392·8	38·8	37·6	14	112·9	26·2	35·9
4	241·5	35·7	36·5	15	370·8	28·2	33·7
5	53·3	26·0	30·3	16	230·3	26·6	28·8
6	57·1	26·8	43·0	17	275·5	23·8	28·4
7	171·2	26·5	37·7	18	76·3	36·1	35·0
8	55·1	35·5	35·5	19	58·9	33·9	37·7
9	574·0	16·0	35·1	20	44·8	15·4	27·6
10	418·1	29·7	33·6	21	104·1	24·9	32·4
11	240·9	26·5	30·7	22	137·7	26·1	43·9

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF MARKET STREET.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	14·593	142	16	5·392	161
2	1·534	117	17	2·479	150
3	5·366	123	18	4·318	157
4	3·037	120	19	3·600	155
5	4·049	98	20	21·610	144
6	2·477	119	21	2·695	149
7	22·766	117	22	3·272	153
8	6·121	112	23	10·736	156
9	1·223	116	24	19·214	141
10	2·582	149	25	21·115	130
11	1·239	151	26	10·720	137
12	1·295	115	27	5·600	124
13	2·298	123	28	8·096	120
14	3·346	123	29	6·284	109
15	2·038	135			

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS. REGISTRATION SUB-DISTRICT OF MARKET STREET.

No. of Enumeration District.	No. of Persons per Acre, or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre, or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	158·4	20·7	20·7	16	44·5	25·0	33·3
2	565·1	27·6	29·9	17	151·2	40·0	40·0
3	126·5	20·6	27·9	18	151·4	36·6	33·6
4	385·5	24·5	29·6	19	206·9	34·9	33·5
5	112·6	23·5	42·9	20	23·7	19·4	21·4
6	194·5	32·5	40·6	21	105·0	53·0	53·0
7	27·9	10·8	18·5	22	45·2	40·5	47·5
8	86·2	34·0	37·8	23	30·5	35·5	32·5
9	424·3	25·0	25·0	24	8·0	32·3	38·7
10	343·1	33·9	33·9	25	17·9	5·2	13·2
11	354·3	29·6	41·0	26	34·6	21·5	18·8
12	463·3	16·6	35·0	27	20·3	8·7	43·8
13	175·3	42·1	39·7	28	43·3	14·2	22·7
14	131·2	36·4	38·7	29	55·5	28·6	37·2
15	109·9	26·7	67·9				

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF ST. GEORGE'S.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	4·648	162	23	1·652	—
2	3·904	167	24	6·140	139
3	2·795	167	25	2·516	143
4	2·398	168	26	4·958	108
5	1·880	170	27	3·409	119
6	12·049	169	28	1·528	145
7	4·158	175	29	2·512	151
8	11·079	174	30	2·590	138
9	8·192	—	31	1·146	156
10	3·842	—	32	9·311	136
11	4·648	183	33	4·213	153
12	7·959	180	34	1·354	157
13	23·171	191	35	9·566	103
14	3·465	183	36	9·811	142
15	16·946	—	37	18·646	112
16	13·362	—	38	2·892	183
17	12·371	—	39	7·314	—
18	6·477	210	40	18·904	124
19	19·803	—	41	8·552	—
20	10·201	209	42	20·639	—
21	17·582	210	43	15·961	—
22	14·753	—	44	4·163	—

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS. REGISTRATION SUB-DISTRICT OF ST. GEORGE'S.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	197·7	26·2	37·3	23	341·4	17·7	19·5
2	299·9	23·0	32·2	24	223·7	20·3	33·9
3	320·5	31·2	44·5	25	604·9	25·6	29·3
4	350·2	21·4	21·3	26	266·2	37·1	38·5
5	395·2	52·4	48·3	27	267·5	26·3	34·6
6	79·4	28·2	34·5	28	825·2	23·7	34·9
7	330·2	27·6	30·3	29	347·1	21·7	43·4
8	101·8	31·9	28·5	30	352·8	28·4	41·0
9	156·1	19·5	22·8	31	677·1	32·2	37·5
10	256·8	11·1	16·7	32	84·2	38·2	40·5
11	338·8	25·3	27·2	33	426·5	31·7	29·1
12	288·9	32·1	28·1	34	1115·9	27·7	31·4
13	71·1	24·2	30·6	35	91·5	42·2	37·1
14	567·6	29·4	26·8	36	196·8	25·3	22·2
15	143·5	22·6	20·3	37	34·3	18·7	22·9
16	138·0	15·7	23·4	38	369·6	24·3	18·6
17	170·7	27·4	23·1	39	119·3	20·6	19·5
18	228·1	23·7	13·1	40	84·1	31·4	22·1
19	62·2	19·4	9·4	41	188·0	18·6	6·9
20	182·6	22·0	10·1	42	67·5	15·7	12·0
21	106·7	25·5	11·9	43	79·1	26·7	18·2
22	86·1	21·2	11·5	44	323·8	28·1	19·9

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF HULME.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	2·066	115	25	2·970	112	49	1·952	109
2	2·479	116	26	3·492	111	50	2·603	109
3	2·095	113	27	2·169	111	51	3·758	109
4	3·057	115	28	7·530	110	52	3·842	109
5	2·809	112	29	2·945	109	53	5·227	108
6	5·061	113	30	4·952	106	54	4·664	107
7	2·231	107	31	3·925	106	55	3·487	107
8	2·370	117	32	2·964	108	56	6·818	105
9	5·451	112	33	6·322	103	57	7·670	110
10	6·797	102	34	1·983	103	58	8·057	110
11	3·471	109	35	5·578	104	59	6·876	109
12	2·479	114	36	1·673	104	60	4·132	109
13	2·522	113	37	9·297	105	61	8·416	109
14	2·737	115	38	4·267	105	62	3·801	108
15	3·719	111	39	3·987	103	63	7·267	107
16	2·241	112	40	9·090	101	64	3·297	106
17	3·305	116	41	30·475	97	65	3·636	104
18	2·556	115	42	14·049	90	66	4·803	104
19	2·599	113	43	13·326	99	67	6·198	103
20	3·161	111	44	12·044	99	68	5·289	116
21	1·359	111	45	5·950	105	69	4·493	115
22	5·606	111	46	2·809	108	70	4·121	113
23	3·512	111	47	3·486	108			
24	4·240	111	48	3·398	109			

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS. REGISTRATION SUB-DISTRICT OF HULME.

No. of Enumeration District.	No. of Persons per Acre, or Density of Population.	Death Rate per 1000 during the Year 1870.	Average Death Rate per 1000 during the 10 Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre, or Density of Population.	Death Rate per 1000 during the Year 1870.	Average Death Rate per 1000 during the Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre, or Density of Population.	Death Rate per 1000 during the Year 1870.	Average Death Rate per 1000 during the 10 Years 1861-70.
1	456·4	34·9	28·8	25	346·8	21·3	27·1	49	540·4	26·5	33·8
2	400·5	19·0	23·8	26	302·1	24·6	25·3	50	326·9	34·0	36·4
3	457·7	18·7	27·1	27	443·9	41·5	24·0	51	225·1	43·6	29·1
4	358·5	31·9	28·1	28	157·6	26·1	25·9	52	265·4	36·2	26·4
5	369·5	29·8	28·0	29	391·8	32·0	27·4	53	210·6	25·4	24·3
6	279·3	20·5	27·2	30	287·7	23·1	21·2	54	256·0	26·8	23·6
7	499·7	18·8	35·3	31	284·8	33·0	21·1	55	345·5	27·3	25·4
8	448·1	29·1	32·2	32	390·0	21·6	21·7	56	150·7	23·3	26·3
9	213·9	18·8	25·1	33	191·0	28·9	20·1	57	163·3	16·6	15·8
10	148·7	30·6	25·9	34	438·2	20·7	20·3	58	136·7	15·4	11·3
11	314·8	34·8	30·2	35	178·2	33·1	26·0	59	115·7	13·8	10·4
12	334·8	27·7	29·0	36	542·1	20·9	18·4	60	272·5	30·1	14·6
13	408·0	14·5	25·9	37	161·8	28·1	24·8	61	126·4	21·6	18·3
14	394·2	34·2	24·8	38	283·8	30·5	28·5	62	208·6	18·9	20·9
15	211·0	24·2	26·6	39	248·8	20·1	23·7	63	164·4	18·4	22·3
16	356·9	23·7	21·6	40	120·2	15·5	20·7	64	305·4	23·8	21·5
17	306·5	19·7	20·5	41	346·5	25·4	11·9	65	204·0	17·5	23·8
18	375·5	30·2	27·7	42	96·7	22·8	20·8	66	255·4	18·7	17·1
19	318·9	20·5	18·4	43	94·1	21·5	22·5	67	287·9	19·0	22·3
20	285·0	25·5	26·0	44	13·2	..	..	68	192·8	27·4	24·1
21	650·4	20·3	23·6	45	197·6	26·2	27·7	69	280·8	26·1	20·9
22	222·4	21·5	19·8	46	449·6	34·8	32·2	70	296·7	20·4	17·1
23	332·0	25·7	23·6	47	414·5	33·9	28·8				
24	215·3	28·4	29·7	48	272·8	29·0	31·7				
				Cavalry Barracks, included in 37 District..						11·3	13·9

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF CHORLTON.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	4·291	124	18	4·227	138	35	7·578	115
2	3·068	116	19	11·882	124	36	3·260	115
3	1·580	105	20	13·437	128	37	3·037	115
4	3·719	107	21	21·942	138	38	3·621	115
5	4·793	112	22	13·294	138	39	13·481	119
6	4·700	114	23	9·065	138	40	8·791	116
7	3·347	122	24	6·415	138	41	4·028	116
8	3·126	122	25	113·697	134	42	2·711	116
9	3·099	144	26	29·782	155	43	35·187	126
10	5·862	113	27	18·367	148	44	17·171	126
11	3·440	127	28	21·351	118	45	23·295	126
12	2·954	125	29	6·291	101	46	3·830	109
13	10·434	125	30	3·347	115	47	13·336	109
14	12·468	125	31	3·636	115	48	3·832	109
15	4·943	125	32	2·669	113	49	4·301	113
16	10·924	125	33	1·900	115			
17	7·010	128	34	3·086	115			

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS. REGISTRATION SUB-DISTRICT OF CHORLTON.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the Ten Years 1861-70.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the Ten Years 1861-70.
1	234·6	30·7	27·8	26	45·3	25·9	15·1
2	350·3	19·5	29·7	27	79·8	22·4	17·1
3	429·7	35·3	48·7	28	72·6	16·1	16·2
3	192·7	22·3	35·8	29	140·0	20·4	25·5
5	165·0	20·2	22·7	30	304·7	35·2	31·2
6	181·9	31·5	27·3	31	243·3	29·3	23·7
7	239·9	19·9	24·5	32	406·5	20·2	30·0
8	302·9	26·3	28·7	33	468·9	14·5	23·6
9	220·3	30·7	31·0	34	268·3	18·1	31·2
10	110·5	21·6	29·4	35	124·7	21·1	23·7
11	234·5	23·5	22·4	36	265·6	18·4	26·6
12	228·1	37·0	37·6	37	272·9	27·7	34·1
13	134·6	17·0	23·7	38	270·0	15·3	13·7
14	95·5	14·2	10·0	39	83·0	15·1	18·4
15	229·0	28·2	22·3	40	196·7	15·0	17·2
16	73.5	29·7	20·1	41	236·8	24·1	25·7
17	177·4	19·2	18·1	42	308·3	16·7	16·2
18	190·9	14·8	8·4	43	44·7	12·7	7·8
19	111·5	18·8	19·2	44	76·0	13·0	14·1
20	72·6	12·3	10·4	45	41·6	21·6	13·8
21	59·7	9·8	6·8	46	231·3	18·0	19·1
22	99·3	12·8	6·6	47	81·2	20·3	17·0
23	107·6	21·5	9·7	48	209·0	18·7	23·3
24	142·4	30·6	8·5	49	256·2	22·5	21·0
25	10·9	6·4	7·4				

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF ARDWICK.

No. of District.	Acreage.	Altitude.	No. of District.	Acreage.	Altitude.
1	9·039	125	15	3·347	147
2	4·183	135	16	4·545	147
3	4·995	138	17	11·570	148
4	3·223	125	18	7·452	137
5	2·887	142	19	2·995	142
6	6·661	136	20	3·690	147
7	6·818	143	21	6·169	129
8	107·209	154	22	13·294	136
9	20·110	138	23	20·795	167
10	7·028	147	24	43·352	167
11	6·899	139	25	2·820	130
12	9.314	143	26	8·135	150
13	8·697	147	27	7·024	147
14	2·967	147			

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS.

REGISTRATION SUB-DISTRICT OF ARDWICK.

No. of Enumeration District.	No. of Person per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-1870.	No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	109·4	21·2	24·4	15	249·4	23·9	17·3
2	299·5	27·1	26·8	16	273·9	31·3	20·0
3	228·4	20·1	23·4	17	52·8	16·2	13·4
4	245·7	21·4	19·0	18	177·5	21·9	27·4
5	326·6	26·5	22·4	19	360·9	18·5	32·2
6	136·9	36·1	24·1	20	286·7	22·7	31·7
7	208·8	23·1	23·5	21	129·3	43·8	28·9
8	9·8	22·6	17·4	22	43·5	25·9	39·5
9	54·0	14·7	12·5	23	61·6	21·8	22·1
10	103·1	26·2	14·3	24	21·5	21·3	24·9
11	223·8	23·9	19·6	25	285·4	30·6	31·9
12	107·1	17·0	13·5	26	123·0	30·9	34·5
13	118·6	6·7	3·3	27	207·1	21·3	24·6
14	301·4	26·8	21·2				

TABLE OF AREAS AND ALTITUDES OF ENUMERATION DISTRICTS IN THE REGISTRATION SUB-DISTRICT OF CHEETHAM.

No. of District.	Acreage.	Altitude.
1	30·291	94
2	16·248	122
3	20·052	89
4	75·818	91
5	73·460	152
6	71·189	171
7	11·534	173
8	130·493	135
9	189·852	194
10	96·685	215
11	64·586	225

RATE OF MORTALITY IN THE RESPECTIVE ENUMERATION DISTRICTS.

REGISTRATION SUB-DISTRICT OF CHEETHAM.

No. of Enumeration District.	No. of Persons per Acre or Density of Population.	Death Rate per 1,000 during the Year 1870.	Average Death Rate per 1,000 during the 10 Years 1861-70.
1	84·5	23·0	21·5
2	146·8	20·9	17·7
3	83·4	13·1	18·5
4	34·2	19·6	15·0
5	17·0	19·1	16·4
6	28·9	15·5	13·1
7	172·9	17·0	14·2
8	8·5	13·5	17·3
9	7·8	14·6	11·9
10	21·4	16·3	13·7
11	37·2	12·0	9·1

TABLE

EXHIBITING THE DEATHS UNDER ONE YEAR OF AGE, UNDER FIVE YEARS OF AGE, AND AT ALL AGES, PER 100,000 LIVING, UNDER THE RESPECTIVE AGES, IN THE SEVERAL REGISTRATION DISTRICTS OF ENGLAND AND WALES, DURING THE TEN YEARS 1851-60; WITH THE POPULATION OF EACH DISTRICT IN 1861.

TABLE.

COUNTY.	DISTRICT.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Northumberland	Bellingham	7,080	2,326	7,320	1,421
"	Rothbury	7,147	2,497	7,047	1,475
Cumberland	Bootle	5,880	2,995	8,891	1,629
Cornwall	Scilly Isles	2,431	3,030	9,132	1,843
Merionethshire	Bala	6,352	3,053	9,971	1,800
"	Dolgelly	12,482	3,079	10,275	1,848
Northumberland	Glendale	13,211	3,220	9,162	1,509
Yorkshire, W. Riding	Sedbergh	4,391	3,261	9,636	1,925
Cardiganshire	Newcastle-in-Emlyn	19,081	3,283	7,923	1,822
"	Lampeter	9,994	3,313	9,390	1,788
Worcestershire	Tenbury	7,366	3,337	10,221	1,725
Cardiganshire	Tregaron	10,737	3,338	9,033	1,804
Berkshire	Easthampstead	7,436	3,363	11,505	1,609
Yorkshire, N. Riding	Leyburn	10,105	3,372	11,619	1,654
Hampshire	Alresford	7,182	3,390	11,600	1,630
Westmoreland	West Ward	8,072	3,442	10,287	1,829
Hampshire	Havant	7,212	3,475	11,371	1,872
Sussex	Thakeham	7,567	3,497	11,272	1,824
Surrey	Hambledon	13,907	3,499	10,527	1,701
Westmoreland	East Ward	15,411	3,515	11,470	1,756
Northumberland	Haltwhistle	6,693	3,516	11,774	1,680
"	Belford	6,260	3,563	10,065	1,633
Surrey	Farnborough	14,318	3,571	9,693	1,426
Devonshire	Holsworthy	9,876	3,615	9,225	1,772
Cardiganshire	Cardigan	18,585	3,620	10,660	1,945
Hampshire	Lymington	12,094	3,621	10,379	1,773
"	New Forest	13,509	3,626	11,711	1,715
Shropshire	Church Stretton	6,289	3,647	11,922	1,802
Cumberland	Brampton	10,866	3,648	11,696	1,657
Yorkshire, W. Riding	Hemsworth	7,793	3,649	11,829	1,620
Carnarvonshire	Pwllheli	20,908	3,657	10,907	1,842
Merionethshire	Corwen	16,107	3,659	10,049	1,804
Devonshire	Crediton	20,274	3,670	9,763	1,763
Carmarthenshire	Llandovery	14,775	3,696	11,587	1,828
Radnorshire	Knighton	10,379	3,701	11,455	1,632
Somersetshire	Williton	19,918	3,704	9,881	1,771
Carmarthenshire	Llandilofawr	17,222	3,713	11,262	1,913
Gloucestershire	Thornbury	16,499	3,715	12,498	1,673
Devonshire	Okehampton	18,580	3,717	9,389	1,816
Sussex	Westhampnett	14,811	3,719	11,482	1,813
"	Westbourne	6,957	3,726	9,917	1,748
"	East Grinstead	14,097	3,761	11,249	1,732

County.	District.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Leicestershire	Billesden	7,272	3,763	12,972	1,591
Yorkshire, N. Riding	Bedale	8,650	3,782	12,266	1,801
Hertfordshire	Ware	16,515	3,795	11,403	1,769
Montgomeryshire	Llanfyllin	21,699	3,806	10,591	1,932
Devonshire	South Molton.........	19,209	3,814	12,250	1,771
Brecknockshire	Builth..................	8,305	3,822	12,212	1,848
Sussex	Eastbourne	10,721	3,831	10,211	1,666
Lancashire	Garstang	12,425	3,838	10,792	1,786
Devonshire	Torrington	16,876	3,843	10,215	1,749
Surrey	Epsom	22,409	3,861	10,404	1,620
Sussex	Midhurst	12,581	3,884	11,188	1,818
Devonshire	Barnstaple	36,293	3,904	10,987	1,764
Sussex	Horsham	15,313	3,909	12,285	1,765
Westmoreland	Kendal	37,463	3,915	10,111	1,855
Denbighshire	Ruthin	16,083	3,916	11,567	1,938
Sussex	Hailsham	12,668	3,916	13,370	1,747
Northumberland	Alnwick	21,053	3,921	11,266	1,857
Kent	Cranbrook	13,412	3,927	13,264	1,693
Shropshire	Cleobury Mortimer...	8,304	3,935	12,333	1,817
Sussex	Petworth	9,397	3,938	11,885	1,855
Hampshire	Droxford	10,665	3,949	13,351	1,771
Surrey	Godstone	9,642	3,954	12,053	1,656
Yorkshire, W. Riding	Great Ouseburn......	11,534	3,959	12,394	1,822
Berkshire...............	Wokingham	14,465	3,966	12,793	1,760
Sussex	Worthing	18,921	3,968	11,074	1,790
Radnorshire	Presteigne	15,671	3,982	13,037	1,893
"	Rhayader	6,816	3,990	12,572	1,782
Hampshire	Alton	12,063	3,993	12,862	1,776
Yorkshire, N. Riding	Stokesley	10,381	3,997	12,387	1,952
Devonshire	Kingsbridge	19,394	4,001	10,449	1,790
Cardiganshire	Abeyrayron	13,540	4,012	10,147	1,975
Surrey	Reigate	20,109	4,015	10,961	1,718
Sussex	Battle..................	12,680	4,020	12,234	1,703
"	Cuckfield	17,163	4,023	12,207	1,755
Somersetshire	Wellington............	20,480	4,023	12,149	1,840
Hertfordshire	Bishop Stortford ...	20,212	4,028	12,783	1,791
Herefordshire	Weobly	9,018	4,030	13,465	1,958
Yorkshire, W. Riding	Settle	12,528	4,031	11,341	1,976
Cornwall	Stratton	8,028	4,047	10,016	1,956
Hampshire	Ringwood	5,357	4,053	13,627	1,833
Kent	Sevenoaks	22,039	4,054	12,577	1,781
Worcestershire	Martley	15,098	4,055	13,467	1,786
Hampshire	Isle of Wight.........	55,362	4,059	11,008	1,710
Shropshire	Atcham	19,455	4,066	13,711	1,812
Warwickshire	Solihull	13,231	4,067	11,758	1,828
Kent	Bromley...............	20,368	4,078	11,752	1,620
Denbighshire	Llanrwst...............	12,770	4,078	12,708	1,886
Montgomery	Machynlleth	12,395	4,088	11,587	2,064
Hampshire	Basingstoke	17,429	4,100	12,913	1,882

COUNTY.	DISTRICT.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Hertfordshire	Hatfield	8,400	4,104	14,612	1,787
Yorkshire, N. Riding.	Askrigg	5.649	4,107	14,919	1,990
Hampshire	Andover	17,132	4,114	12,722	1,843
Worcestershire	Pershore...............	13,865	4,123	13,924	1,749
Surrey	Chertsey...............	18,642	4,131	12,131	1,802
“	Dorking	12,445	4,139	12,074	1,733
Cumberland...........	Alston.................	6,404	4,168	13,749	1,989
Hampshire	Christchurch	10,438	4,176	14,180	1,840
Cardiganshire	Aberystwith	25,464	4,194	10,032	1,909
Northumberland	Hexham	31,850	4,198	13,121	1,853
Rutlandshire	Uppingham	12,367	4,199	13,325	1,756
Devonshire	Totnes	32,942	4,210	11,040	1,865
Hampshire	Fareham	14,864	4,210	13,306	2,068
Essex	Ongar..................	11,317	4,215	14,916	1,820
Devonshire	Bideford...............	17,790	4,225	10,051	1,866
Derbyshire	Ashbourn	20,648	4,219	12,523	1,955
Cumberland............	Wigton	23,273	4,229	14,292	1,857
Yorkshire, N. Riding.	Thirsk	12,299	4,231	14,010	1,849
Gloucestershire	Tetbury	6,110	4,248	11,716	1,828
Herefordshire	Ledbury...............	14,880	4,254	14,079	1,805
Sussex..................	Lewes..................	26,995	4,262	11,944	1,947
Hampshire	Kingsclere	8,517	4,267	12,759	1,908
Somersetshire	Langport	18,077	4,268	12,758	1,868
Cambridgeshire	Linton	13,510	4,272	14,529	1,853
Kent	East Ashford	12,286	4,282	13,010	1,843
Cumberland............	Longtown	10,469	4,291	14,347	1,742
Wiltshire...............	Tisbury	9,862	4,292	13,134	1,926
Yorkshire, N. Riding.	Easingwold	10,148	4,302	14,625	1,777
Essex	Epping	16,549	4,305	12,623	1,793
Yorkshire, N. Riding.	Pickering	10,549	4,308	14,687	1,857
Cumberland............	Penrith	22,322	4,327	13,125	1,900
Yorkshire, N. Riding.	Richmond	13,457	4,328	12,555	1,899
Berkshire...............	Cookham	13,031	4,328	12,989	1,822
Devonshire	Plympton St. Mary..	20,502	4,328	10,417	1,858
Hertfordshire	Hertford...............	15,301	4,336	13,224	1,745
Yorkshire, W. Riding	Wetherby	5,123	4,340	14,051	1,774
Gloucestershire	Northbleach	10,895	4,341	14,948	1,886
Berkshire	Wallingford	14,017	4,341	12,632	1,952
Cornwall	Launceston	17,005	4,347	11,368	1,921
Dorsetshire	Winborne	17,253	4,348	12,535	1,822
Hampshire	Romsey	10,771	4,352	13,027	1,951
Norfolk	Blofield	11,521	4,360	14,982	2,018
Berkshire...............	Bradfield	15,771	4,362	14,812	1,888
Hampshire	Fordingbridge	6,377	4,363	13,079	2,038
Yorkshire, N. Riding.	Hemsley...............	11,832	4,368	14,585	1,876
“ “	Northallerton	12,174	4,368	12,990	1,894
Dorsetshire	Blandford	14,827	4,375	11,767	1,719
Hampshire	Catherington	2,497	4,388	14,768	1,915
Sussex..................	Uckfield	17,260	4,392	14,663	1,894

COUNTY.	DISTRICT.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Shropshire	Oswestry	23,817	4,393	13,410	1,895
Cornwall	St. Columb	16,754	4,396	13,074	1,784
Yorkshire, W. Riding	Reeth	6,196	4,410	14,078	2,022
Suffolk..................	Bosmere...............	16,174	4,440	14,446	1,875
Wiltshire	Bradford-on-Avon ...	10,475	4,451	13,142	2,163
Hampshire	South Stoneham	25,542	4,468	12,428	1,700
Gloucestershire	Stow-on-the-Wold ...	9,687	4,471	13,484	1,848
Shropshire	Clun	10,615	4,472	15,571	1,843
Dorsetshire	Wareham	17,072	4,477	12,080	1,851
Rutlandshire	Oakham	11,112	4,483	13,177	1,876
Somersetshire	Axbridge	36,106	4,484	12,739	1,743
Gloucestershire	Wheatenhurst	7,813	4,491	13,010	1,885
"	Whinchcomb	10,082	4,491	13,821	1,823
Anglesea	Anglesea	38,157	4,501	13,192	1,933
Suffolk..................	Cosford	17,376	4,506	13,457	1,965
Somersetshire	Clutton	23,721	4,510	15,144	1,860
Warwickshire	Meriden	11,290	4,515	13,840	1,849
Buckinghamshire ...	Eton	22,353	4,515	13,000	1,839
Merionethshire	Festiniog	18,289	4,519	14,414	1,934
Hampshire	Hartley Wintney ...	11,480	4,520	11,825	1,927
Suffolk..................	Samford...............	12,736	4,524	15,031	1,957
Herefordshire	Bromyard	11,811	4,530	15,236	1,967
Wiltshire	Devizes	21,680	4,538	13,523	2,087
Gloucestershire	Chipping Sodbury ...	18,763	4,540	15,352	1,926
Shropshire	Wem	10,644	4,540	13,129	2,001
Worcestershire	Upton-on-Severn ...	21,010	4,541	13,910	2,002
Oxfordshire	Henley	18,200	4,543	13,968	1,898
Devonshire	Honiton	22,729	4,545	11,882	1,883
Shropshire	Ellesmere	14,611	4,553	13,619	1,926
Sussex	Ticehurst	14,626	4,564	15,062	1,919
Kent	Hollingbourn	13,584	4,569	15,108	1,867
Monmouthshire	Chepstow	17,941	4,580	12,547	1,964
Essex	Saffron Walden	19,721	4,580	13,648	1,936
Devonshire	St. Thomas	48,405	4,580	12,855	1,939
Shropshire	Bridgenorth	15,920	4,587	15,286	1,890
Wiltshire................	Warminster	15,942	4,589	13,851	2,020
Gloucestershire	Dursley	13,331	4,590	13,686	2,116
Wiltshire................	Malmesbury	14,556	4,591	13,958	1,862
"	Pewsey	12,466	4,591	14,106	1,866
Lancashire	Ulverstone............	35,738	4,595	11,816	2,004
Somersetshire	Wells	21,889	4,597	14,475	2,061
Essex	Chelmsford............	32,765	4,597	13,765	1,928
Nottinghamshire	Southwell	24,408	4,607	15,219	1,852
Carnarvonshire	Conway	13,896	4,610	13,267	1,838
Essex	Lexden	22,950	4,614	14,562	1,889
"	Billericay	15,031	4,624	13,277	2,064
Leicestershire	Market Bosworth ...	13,428	4,645	13,359	1,885
Suffolk..................	Plomesgate............	20,720	4,651	14,001	1,991
Worcestershire	Droitwich	19,289	4,652	14,484	1,814

County.	District.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Leicestershire	Lutterworth	15,515	4,656	13,782	1,910
Kent	Tenterden	10,947	4,662	15,788	1,931
Devonshire	Axminster	19,758	4,665	11,356	1,957
Leicestershire	Melton Mowbray	20,171	4,671	14,282	1,872
Kent	Eastry	25,900	4,676	13,441	1,947
Monmouthshire	Monmouth	30,244	4,677	13,415	1,907
Durham	Teesdale	20,880	4,682	13,313	1,928
Montgomeryshire......	Montgomery	19,097	4,684	14,714	1,948
Kent	Blean	16,161	4,684	13,489	1,830
Sussex	Chichester	14,775	4,685	13,047	2,121
Devonshire	Newton Abbott	59,063	4,692	12,912	1,828
Essex	Dunmow	19,759	4,694	15,326	1,975
Northumberland	Berwick-on-Tweed...	21,862	4,701	12,291	1,909
Middlesex	Barnet	19,128	4,702	13,613	2,477
Suffolk	Risbridge	17,432	4,716	13,098	1,990
"	Stow	20,908	4,717	14,830	1,909
Shropshire	Ludlow	17,721	4,734	15,801	1,932
Herefordshire	Leominster............	15,494	4,738	14,731	2,077
Gloucestershire	Westbury-on-Severn.	20,189	4,741	13,423	1,826
Derbyshire	Bakewell	31,378	4,742	13,839	2,010
Somersetshire	Shepton Mallett......	16,619	4,742	14,299	1,995
"	Keynsham	21,802	4,743	13,463	1,892
Staffordshire	Uttoxeter	14,787	4’746	14,246	2,024
Surrey	Guildford	29,330	4,749	12,728	1,912
Warwickshire	Stratford-on-Avon ...	21,249	4,750	13,202	1,936
Somersetshire	Wincanton............	21,500	4,752	14,371	2,013
Middlesex	Hendon	19,238	4,761	12,725	1,767
Surrey	Kingston	36,479	4,762	13,009	1,791
Somersetshire	Bridgewater	34,420	4,763	13,619	1,917
Suffolk..................	Woodbridge	22,754	4,770	17,473	2,043
Shropshire	Shiffnal	11,994	4,771	13,222	1,831
Suffolk..................	Hartismere............	17,665	4,774	15,495	1,955
Kent.....................	Elham	26,925	4,782	14,654	1,758
Wiltshire	Calne	8,885	4,782	14,513	1,980
Devonshire	Tiverton & Dulverton	37,356	4,789	12,813	2,013
Somersetshire	Taunton	35,601	4,795	13,543	1,962
Kent	Bridge	11,316	4,795	14,693	1,816
Hampshire	Petersfield	7,853	4,800	16,849	1,939
Gloucestershire	Cirencester............	20,934	4,806	14,225	1,968
Wiltshire...............	Alderbury	14,770	4,811	14,238	2,268
Gloucestershire	Newent	12,420	4,811	16,703	1,924
Staffordshire	Lichfield...............	27,541	4,814	13,012	1,975
Hampshire	Winchester	26,607	4,815	13,647	2,030
Lancashire	Fylde	25,682	4,819	13,157	1,887
Derbyshire	Chapel-en-le-Frith ...	14,020	4,825	14,068	1,970
Berkshire	Newbury	19,999	4,833	14,037	2,107
Sussex..................	Steyning	24,053	4,833	15,280	1,597
Yorkshire, W. Riding	Tadcaster	19,919	4,845	15,284	1,882
Herefordshire	Ross	16,306	4,848	15,492	2,020

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Cornwall	Camelford	7,784	4,853	13,816	1,956
Dorsetshire	Shaftesbury	12,986	4,854	13,673	1,953
Yorkshire, West Riding	Ripon	15,742	4,858	15,055	1,962
“ “	Pateley Bridge	9,534	4,862	16,196	2,052
Hampshire	Stockbridge	7,286	4,865	11,744	1,937
Suffolk	Thingoe	18,224	4,867	16,013	1,896
Brecknockshire	Hay	10,819	4,867	15,416	2,182
Lincolnshire	Glanford Brigg	34,731	4,898	16,243	1,871
Northumberland	Castle Ward	14,943	4,899	14,029	1,905
Warwickshire	Southam	10,392	4,909	16,746	1,875
Middlesex	Edmonton	59,312	4,909	12,650	1,800
Montgomeryshire	Newtown	23,732	4,914	13,711	2,110
Oxfordshire	Chipping Norton	17,306	4,915	14,958	1,943
Cornwall	Bodmin	19,691	4,920	13,831	2,003
Wiltshire	Amesbury	8,127	4,925	14,340	1,998
“	Cricklade	11,470	4,937	15,991	2,006
Dorsetshire	Poole	13,742	4,945	13,486	1,984
Denbighshire	St. Asaph	27,518	4,946	13,627	2,105
Warwickshire	Shipston-on-Stour	19,852	4,948	15,267	1,968
Sussex	Hastings	26,631	4,950	13,484	1,817
Kent	Dartford	32,316	4,957	14,412	1,766
Worcestershire	Evesham	14,767	4,961	14,146	1,875
Wiltshire	Wilton	10,674	4,975	12,518	2,085
“	Chippenham	22,029	4,995	16,313	2,069
Northamptonshire	Oundle	15,463	5,002	16,942	1,885
Cornwall	St. Germans	17,631	5,004	11,887	2,070
Huntingdonshire	St. Neots	18,965	5,007	16,697	1,889
Yorkshire, North Ridg.	Whitby	23,633	5,008	13,410	2,043
Middlesex	Hampstead	19,106	5,014	13.330	1,600
Hertfordshire	Royston	25,014	5,030	17,447	1,852
Kent	Malling	21,447	5,031	15,365	1,925
Carmarthenshire	Llanelly	27,979	5,043	12,133	1,968
Dorsetshire	Beaminster	13,587	5,055	16,067	2,025
“	Sturminster	10,334	5,059	17,114	2,005
Oxfordshire	Witney	23,238	5,060	14,509	2,013
Lincolnshire	Spilsby	28,799	5,062	19,119	1,899
Kent	Romney Marsh	5,708	5,063	14,471	2,141
Shropshire	Market Drayton	14,260	5,067	14,982	1,979
Carmarthenshire	Carmarthen	36,675	5,070	14,062	2,121
Sussex	Rye	11,927	5,080	14,740	1,988
Dorsetshire	Dorchester	24,773	5,081	15,549	2,103
Wiltshire	Mere	8,057	5,086	14,975	2,093
Warwickshire	Rugby	24,436	5,103	14,836	1,876
Nottinghamshire	East Retford	22,677	5,114	15,363	1,912
Pembrokeshire	Haverfordwest	37,343	5,120	14,163	2,114
Shropshire	Newport	15,447	5,122	15,193	1,969
Essex	Rochford	18,282	5,122	15,740	2,053
Oxfordshire	Woodstock	14,236	5,126	15,915	2,006
Suffolk	Hoxne	14,694	5,126	16,887	2,022

COUNTY.	DISTRICT.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Suffolk	Wangford	13,619	5,129	16,932	2,059
Norfolk	Depwade	25,248	5,132	17,857	1,955
Kent	Faversham	18,867	5,133	14,661	1,967
Suffolk	Blything	26,848	5,134	17,345	2,021
Lincolnshire	Horncastle	24,718	5,136	17,505	1,894
Kent	West Ashford	15,137	5,142	13,645	1,982
Nottinghamshire	Bingham	15,670	5,142	14,199	1,884
Staffordshire	Tamworth	15,504	5,148	14,248	1,977
Kent	Lewisham	65,757	5,152	12,016	1,675
Herefordshire	Hereford	39,287	5,154	16,228	2,099
Shropshire	Whitchurch	11,272	5,159	16,612	1,959
Kent	Thanet	31,862	5,162	13,898	2,108
Dorsetshire	Weymouth	27,328	5,167	13,406	1,783
Berkshire	Hungerford	19,882	5,171	17,960	2,027
Northamptonshire	Hardingstone	9,928	5,177	15,104	2,009
Suffolk	Mildenhall	9,595	5,188	17,731	1,997
Yorkshire, N. Riding	Malton	23,483	5,201	16,742	1,930
Lancashire	Clitheroe	20,476	5,207	14,528	2,089
Gloucestershire	Tewkesbury	14,908	5,213	14,190	2,051
Nottinghamshire	Worksop	20,704	5,213	15,124	1,951
Norfolk	Henstead	11,290	5,215	18,664	1,930
Staffordshire	Cheadle	20,988	5,233	14,774	2,078
Oxfordshire	Thame	15,306	5,234	16,367	2,089
Essex	Tendring	27,105	5,238	15,867	2,036
Northumberland	Morpeth	24,003	5,251	14,690	1,946
Nottinghamshire	Newark	30,208	5,253	16,590	1,968
Wiltshire	Marlborough	9,774	5,259	17,030	1,932
Norfolk	Swaffham	13,747	5,261	19,619	1,885
Cambridgeshire	Caxton	10,966	5,267	16,764	1,857
Norfolk	St. Faith's	11,749	5,269	18,620	1,754
Leicestershire	Market Harborough	16,059	5,280	17,051	1,990
Brecknockshire	Brecknock	17,279	5,280	15,138	2,126
Essex	Witham	16,324	5,284	16,655	2,055
Norfolk	Wayland	11,562	5,285	20,711	2,003
Derbyshire	Shardlow	31,113	5,285	15,117	2,031
Hertfordshire	Hitchin	25,603	5,286	17,477	1,875
Yorkshire, E. Riding	Pocklington	16,710	5,292	18,960	1,932
“ N. Riding	Guisborough	22,128	5,294	13,197	2,011
Bedfordshire	Bedford	38,072	5,308	16,412	2,011
Norfolk	Tunstead	14,516	5,308	18,774	2,119
“	Loddon	14,242	5,329	18.543	1,943
Surrey	Croydon	46,474	5,340	13,902	1,856
Devonshire	Tavistock	35,265	5,344	13,153	1,983
Hampshire	Whitchurch	5,522	5,346	19,153	2,213
Flintshire	Holywell	39,941	5,349	14,372	2,075
Middlesex	Staines	15,976	5,352	15,182	1,917
Lincolnshire	Bourne	21,293	5,354	17,914	1,855
Pembrokeshire	Pembroke	29,003	5,356	15,477	1,941
Somersetshire	Chard	25,591	5,361	14,418	2,037

County.	District.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Essex	Maldon	22,556	5,362	12,786	2,114
Berkshire	Farringdon	15,688	5,363	18,367	2,074
Somersetshire	Frome	23,704	5,372	14,860	2,175
Cambridgeshire	Newmarket	28,675	5,375	17,012	2,030
Cheshire	Altrincham	40,517	5,383	16,380	1,981
Worcestershire	King's Norton	47,349	5,384	15,166	1,712
Middlesex	Uxbridge	23,156	5,387	15,084	2,189
Staffordshire	Penkridge	18,662	5,397	16,210	1,995
Yorkshire, E. Riding	Skirlaugh	9,654	5,408	19,249	1,887
Buckinghamshire	Aylesbury	23,600	5,409	17,495	2,154
Suffolk	Sudbury	31,415	5,410	16,258	2,018
Norfolk	Freebridge, Lynn	13,486	5,413	19,606	1,828
Lincolnshire	Grantham	28,886	5,418	16,181	1,874
Northamptonshire	Daventry	20,600	5,419	16,216	2,035
“	Brixworth	15,159	5,423	17,451	2,043
Oxfordshire	Bicester	15,555	5,427	16,692	2,106
Lancashire	Ormskirk	46,252	5,427	15,478	1,925
“	Lancaster	35,297	5,433	12,987	2,280
Durham	Darlington	26,122	5,438	14,675	2,005
Warwickshire	Atherstone	12,118	5,446	16,089	1,983
Derbyshire	Belper	51,711	5,447	15,523	2,050
Lincolnshire	Sleaford	24,914	5,457	17,190	1,883
“	Caistor	37,517	5,461	16,915	1,879
Buckinghamshire	Wycombe	35,138	5,474	16,915	2,050
Norfolk	Mitford	28,020	5,476	19,397	1,992
Lincolnshire	Louth	34,711	5,488	17,843	1,999
Norfolk	Forehoe	12,818	5,489	19,835	2,032
Kent	Tunbridge	34,271	5,490	15,283	2,024
Northamptonshire	Brackley	13,471	5,490	16,228	2,093
Glamorganshire	Bridgend	26,465	5,496	15,065	1,967
Durham	Weardale	16,418	5,499	16,077	2,088
Carnarvonshire	Bangor	36,309	5,500	17,093	2,050
Cornwall	Helston	30,036	5,506	15,786	2,043
Yorkshire, W. Riding	Knaresborough	17,176	5,524	18,116	2,149
Buckinghamshire	Winslow	9,265	5,527	18,028	2,185
Middlesex	Hackney	83,295	5,531	13,934	1,963
Huntingdonshire	Huntingdon	20,518	5,535	18,128	1,968
Hertfordshire	St. Alban's	18,926	5,545	18,308	1,946
Essex	Romford	26,965	5,548	16,079	2,010
Staffordshire	Burton-on-Trent	41,065	5,549	14,286	2,058
Buckinghamshire	Newport Pagnel	24,855	5,551	16,829	2,081
Lincolnshire	Stamford	18,213	5,574	17,718	1,964
Northamptonshire	Thrapstone	14,065	5,576	16,090	1,976
Yorkshire, W. Riding	Skipton	28,761	5,577	16,711	2,125
Norfolk	Aylesham	19,052	5,580	18,627	2,106
Cornwall	St. Austell	33,797	5,582	11,007	1,997
Yorkshire, E. Riding	Beverley	21,029	5,592	17,705	1,891
Hertfordshire	Watford	20,355	5,601	16,146	1,999
Gloucestershire	Stroud	36,448	5,610	15,297	2,171

COUNTY.	DISTRICT.	Population in 1861.	Deaths under 5 years of age, from all causes, per 100,000 living.	Deaths under 1 year of age, from all causes, per 100,000 living.	Deaths at all ages, from all causes, per 100,000 living.
Norfolk	Flegg	8,631	5,613	18,906	1,987
Cornwall	Truro	43,070	5,627	15,655	2,013
Staffordshire	Stafford	24,474	5,639	16,111	2,227
Surrey	Wandsworth	70,403	5,642	14,201	2,043
Gloucestershire	Cheltenham	49,792	5,644	15,793	1,899
Oxfordshire	Banbury	30,171	5,671	15,944	2,132
Dorsetshire	Sherbourne	13,463	5,675	15,137	2,025
Staffordshire	Stone	21,926	5,683	16,618	2,024
Wiltshire	Highworth	19,237	5,684	16,614	2,086
Oxfordshire	Headington	17,185	5,696	17,500	2,315
Surrey	Richmond	18,802	5,733	14,996	1,989
Cambridgeshire	Chesterton	25,083	5,747	17,747	2,001
Yorkshire, W. Riding	Otley	29,513	5,750	18,806	2,169
Buckinghamshire ...	Buckingham	13,756	5,752	16,972	2,215
Lincolnshire	Boston	37,969	5,754	18,080	1,949
Dorsetshire	Bridport	16,828	5,770	15,889	2,095
Cheshire	Nantwich	40,955	5,776	15,769	2,002
Cornwall	Liskeard	33,562	5,780	14,488	1,990
"	Falmouth	23,332	5,782	16,302	1,956
Wiltshire	Westbury	11,751	5,797	18,140	2,207
Northamptonshire ...	Potterspurry	11,632	5,800	14,170	1,999
Glamorganshire	Swansea and Gower..	59,576	5,809	13,506	2,023
Berkshire	Bradfield	15,771	5,809	14,812	1,888
Yorkshire, E. Riding	Bridlington	14,371	5,815	18,600	2,032
Essex	Baintree	17,170	5,816	18,743	2,075
Licolnshire	Gainsborough	25,973	5,818	18,266	1,994
Yorkshire, W. Riding	Wortley	38,511	5,831	16,195	2,093
Surrey	Farnham	30,707	5,842	16,087	1,733
Warwickshire	Warwick	44,047	5,847	16,564	2,068
Surrey	Camberwell	71,488	5,851	13,931	2,161
Huntingdonshire	St. Ives	19,654	5,855	18,261	2,047
Somersetshire	Bedminster	41,257	5,857	16,297	1,984
Lincolnshire	Lincoln	47,063	5,867	17,292	2,044
Somersetshire	Yeovil..................	28,189	5,868	16,638	2,148
Norfolk	Erpingham...........	20,874	5,874	19,960	2,115
Yorkshire, E. Riding	Patrington	9,681	5,884	19,767	1,997
Norfolk	Walsingham	21,118	5,890	21,778	2,047
Kent	North Aylesford......	19,121	5,900	16,295	2,044
Norfolk	Guiltcross	11,541	5,924	21,508	2,225
Kent	Maidstone	38,670	5,958	17,781	2,265
Essex	West Ham	59,319	5,973	15,438	1,951
Warwickshire	Alcester	16,878	5,986	20,335	2,068
Yorkshire, E. Riding	Driffield	19,226	5,993	19,975	1,971
Hertfordshire	Hemel Hampstead...	13,922	5,996	18,000	2,071
Cheshire	Runcorn................	26,792	6,014	15,314	2,110
"	Gt. Boughton, Chester	58,501	6,014	16,824	2,217
Cumberland............	Cockermouth	41,292	6,041	16,023	2,219
Essex	Halstead...............	18,482	6,047	17,893	2,207
Bedfordshire	Woburn	11,684	6,053	19,672	2,151

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Norfolk	Docking	17,596	6,053	20,273	2,055
Leicestershire	Ashby-de-la-Zouch	28,480	6,058	16,743	2,084
Northampton	Kettering	18,995	6,082	19,515	2,017
Norfolk	Thetford	18,712	6,082	19,847	2,027
Wiltshire	Melksham	17,233	6,092	16,881	2,181
Buckinghamshire	Amersham	18,240	6,108	18,524	2,198
Worcestershire	Bromsgrove	26,207	6,117	15,809	2,038
Kent	Dover	31,575	6,124	16,303	1,986
“	Gravesend	18,782	6,131	15,911	2,265
“	Milton	14,775	6,161	15,961	2,073
Bedfordshire	Ampthill	16,970	6,200	20,115	2,128
Wiltshire	Salisbury	9,039	6,202	14,803	2,368
Cheshire	Wirrall	79,840	6,206	15,704	1,906
Norfolk	Downham	20,264	6,209	23,106	2,051
Bedfordshire	Leighton Buzzard	17,648	6,241	20,472	2,153
Essex	Orsett	11,595	6,241	18,850	2,127
Shropshire	Wellington	23,873	6,249	17,280	2,171
Essex	Colchester	23,815	6,255	17,648	2,177
Somersetshire	Bath	68,336	6,259	17,783	2,203
Suffolk	Muttford	24,050	6,268	21,101	2,028
Lincolnshire	Spalding	20,949	6,268	21,845	2,047
Hertfordshire	Berkhampstead	13,204	6,284	17,721	2,137
Durham	Chester-le-Street	27,660	6,291	16,712	2,073
Yorkshire, N. Riding	Scarborough	30,425	6,296	18,478	2,084
Hants	Alverstoke	22,653	6,301	14,811	2,583
Kent	Canterbury	16,643	6,317	19,650	2,288
Middlesex	Brentford	50,516	6,320	17,106	2,158
Carnarvonshire	Carnarvon	32,425	6,323	18,621	2,208
Cambridgeshire	Cambridge	26,361	6,341	15,947	2,032
Northampton	Peterborough	33,178	6,341	19,849	1,999
Gloucestershire	Gloucester	34,950	6,356	17,309	2,227
Durham	Houghton-le-Spring	21,773	6,370	17,251	2,117
Suffolk	Bury St. Edmunds	13,318	6,376	19,007	2,311
Shropshire	Madeley	30,403	6,389	17,528	2,140
Lancashire	Chorley	41,678	6,392	17,332	2,160
Nottinghamshire	Mansfield	30,593	6,405	19,794	2,128
Denbighshire	Wrexham	47,975	6,433	19,249	2,214
Yorkshire, W. Riding	Doncaster	39,388	6,450	18,142	2,154
“ “	Thorne	16,011	6,450	20,744	2,134
“ “	Selby	16,001	6,469	19,785	2,130
“ “	Rotherham	44,350	6,471	17,384	2,165
“ “	Pontefract	34,794	6,487	18,049	2,221
Leicestershire	Barrow-upon-Soar	19,778	6,495	20,662	2,167
Worcestershire	Kidderminster	30,307	6,501	17,248	2,133
Cornwall	Penzance	54,554	6,508	18,824	2,060
Derbyshire	Chesterfield	61,779	6,509	17,982	2,208
Yorkshire, E. Riding	Howden	15,001	6,517	22,375	2,257
Cheshire	Northwich	33,338	6,551	18,943	2,229
Glamorganshire	Neath	58,533	6,552	15,412	2,159

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Kent	Sheppey	18,494	6,626	17,989	1,934
Middlesex	Islington	155,341	6,687	15,614	2,075
Northampton	Towcester	13,004	6,711	21,639	2,268
Shropshire	Shrewsbury	25,784	6,719	16,908	2,518
Yorkshire, W. Riding	Wakefield	53,021	6,733	17,553	2,446
Northamptonshire	Wellingborough	24,224	6,749	19,484	2,224
Yorkshire, W. Riding	Huddersfield	131,336	6,758	18,291	2,196
Worcestershire	Worcester	30,969	6,764	17,598	2,312
Cheshire	Congleton	34,328	6,775	18,535	2,334
Kent	Greenwich	127,670	6,785	15,978	2,482
Middlesex	Kensington	185,950	6,804	16,520	2,025
Bedfordshire	Biggleswade	25,393	6,812	22,813	2,148
Cambridgeshire	Ely	21,910	6,836	22,016	2,131
Leicestershire	Blaby	14,171	6,831	21,413	2,148
Cumberland	Whitehaven	39,950	6,849	15,932	2,264
Lancashire	Barton-upon-Irwell	39,038	6,871	18,449	2,188
Middlesex	St George, Hanover Sq.	87,771	6,892	15,487	2,085
Lincolnshire	Holbeach	18,402	6,894	23,495	2,134
Cornwall	Redruth	57,173	6,902	19,461	2,117
Kent	Hoo	2,861	6,904	24,453	2,489
Monmouthshire	Pontypool	30,288	6,922	16,814	2,305
Norfolk	King's Lynn	16,701	6,922	22,561	2,175
Staffordshire	Leek	24,806	6,938	16,705	2,397
Gloucestershire	Clifton	94,687	6,939	17,402	2,100
Monmouthshire	Newport	51,412	6,952	18,188	2,220
Cambridgeshire	North Witchford	14,791	6,958	22,601	2,063
Durham	Easington	27,293	6,961	17,898	2,026
Suffolk	Ipswich	37,881	6,964	20,178	2,227
Kent	Medway	51,805	6,999	17,811	2,310
Bedfordshire	Luton	30,712	7,033	20,573	2,029
Cumberland	Carlisle	44,820	7,040	18,663	2,313
Hampshire	Portsea Island	94,828	7,050	16,637	2,278
Oxfordshire	Oxford	20,037	7,065	18,982	2,070
Yorkshire, W. Riding	Goole	15,153	7,074	21,815	2,119
Warwickshire	Nuneaton	13,054	7,090	22,713	2,253
Devonshire	Exeter	33,742	7,143	18,272	2,383
Leicestershire	Loughborough	24,210	7,157	21,315	2,276
Warwickshire	Aston	100,522	7,161	17,847	2,101
Yorkshire, W. Riding	Saddleworth	18,631	7,214	19,641	2,389
Lancashire	Prescott	73,127	7,240	17,470	2,362
Staffordshire	Newcastle-under-Lyme	24,567	7,250	18,117	2,271
Cambridgeshire	Whittlesey	6,966	7,272	23,772	2,256
Northumberland	Tynemouth	77,955	7,326	17,416	2,318
Yorkshire, W. Riding	Ecclesall Bierlow	63,618	7,327	18,420	2,275
Surrey	Newington	82,220	7,344	16,074	2,279
Nottinghamshire	Basford	73,285	7,346	20,287	2,293
Durham	Stockton	57,099	7,360	18,984	2,237
"	Hartlepool	29,153			
Middlesex	London City	45,555	7,395	14,769	1,767

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Yorkshire, E. Riding	York	59,968	7,405	20,294	2,360
Leicestershire	Hinckley	16,374	7,406	21,010	2,363
Middlesex	Poplar	79,196	7,417	16,400	2,462
Durham	Auckland	50,491	7,417	19,228	2,345
Middlesex	Clerkenwell	65,681	7,428	15,629	2,173
Surrey	Lambeth	162,044	7,462	16,836	2,206
Durham	Durham	70,274	7,471	19,626	2,257
Lancashire	Haslingden	69,781	7,472	19,107	2,244
Middlesex	Pancras	198,788	7,476	17,342	2,277
Sussex	Brighton	77,693	7,546	19,572	2,200
Durham	South Shields	44,849	7,584	18,172	2,401
Lancashire	Warrington	43.875	7,604	19,146	2,394
Cambridgeshire	Wisbeach	33,323	7,605	26,001	2,203
Middlesex	Bethnall Green	105,101	7,622	16,121	2,226
Yorkshire, W. Riding	Keighley	45,704	7,627	21,294	2,329
Worcestershire	Stourbridge	68,726	7,628	20,202	2,276
Yorkshire, E. Riding	Sculcoates	51,956	7,633	20,617	2,227
Glamorgan	Cardiff	74,575	7,641	18,960	2,329
Surrey	Rotherhithe	24,502	7,670	17,235	2,381
Derbyshire	Hayfield	32,176	7,719	21,569	2,331
Middlesex	Stepney & Mile End Old Town	129,636	7,744	17,165	2,405
Yorkshire, W. Riding	Halifax	128,673	7,776	20,593	2,355
Middlesex	Shoreditch	129,364	7,779	16,831	2,423
Durham	Gateshead	59,409	7,811	18,901	2,582
Lancashire	Burnley	75,595	7,784	21,117	2,364
“	West Derby	225,845	7,856	17,649	2,273
“	Bury	101,135	7,872	21,180	2,315
Cheshire	Macclesfield	61,543	7,900	22,715	2,483
Middlesex	Chelsea	63.439	7,924	18,720	2,478
Hampshire	Southampton	43,414	7,938	19,137	2,445
Yorkshire, W. Riding	Barnsley	45,797	8,000	21,256	2,405
Lancashire	Rochdale	91,754	8,107	19,937	2,370
Derbyshire	Derby	51,049	8,113	19,361	2,408
Devonshire	Stoke Damerel	50,440	8,166	18,680	2,295
Surrey	Bermondsey	58,355	8,227	16,797	2,485
Lancashire	Leigh	37,700	8,261	21,275	2,514
Devonshire	East Stonehouse	14,343	8,349	18,913	2,706
Norfolk	Yarmouth	30,338	8,381	22,846	2,473
Northamptonshire	Northampton	41,160	8,386	21,762	2,461
Monmouthshire	Abergavenny	67,092	8,406	20,579	2,519
Norfolk	Norwich	74,440	8,414	23,517	2,492
Warwickshire	Foleshill	19,997	8,470	23,361	2,472
Durham	Sunderland	90,704	8,491	20,823	2,489
Yorkshire, W. Riding	Dewsbury	92,883	8,511	20,303	2,472
Middlesex	St. James, Westminster.	35,326	8,523	17,161	2,149
Staffordshire	West Bromwich	92,480	8,525	19,228	2,442
Middlesex	Marylebone	161,680	8,531	19,547	2,371
Yorkshire, W. Riding	Hunslet	109,958	8,552	21,072	2,403
“ E. Riding	Hull	56,888	8,556	21,680	2,469

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Brecknock	Crickhowell	22,457	8,599	22,757	2,505
Middlesex	St.Martin's-in-the-Fields	22,689	8,788	17,206	2,554
Devonshire	Plymouth	62,599	8,796	20,404	2,362
Middlesex	Strand	42,979	8,806	17,723	2,365
Gloucestershire	Bristol	66,027	8,815	20,896	2,671
Lancashire	Chorlton...............	169,579	8,856	21,133	2,394
“	Wigan	94,561	9,021	21,780	2,681
Northumberland	Newcastle-on-Tyne...	110,968	9,114	21,296	2,737
Lancashire	Blackburn	119,942	9,122	22,560	2,634
“	Oldham	111,276	9,143	23,372	2,538
Middlesex	St. Luke...............	54,073	9,165	18,153	2,308
“	Westminster	68,213	9,177	20,041	2,648
Staffordshire	Stoke-upon-Trent	71,308	9,204	22,978	2,621
Middlesex	St. George's-in-the-East.	48,891	9,299	19,485	2,710
Staffordshire	Dudley	130,267	9,349	22,507	2,608
Cheshire	Stockport	94,360	9,376	25,353	2,562
Leicestershire	Leicester	68,190	9,389	23,309	2,541
Staffordshire	Wolstanton	54,356	9,395	23,105	2,617
“	Walsall	59,908	9,435	22,600	2,590
Warwickshire	Birmingham	212,621	9,447	21,200	2,651
Lancashire	Bolton	130,269	9,493	23,411	2,688
Middlesex	St. George's, Southwark.	55,510	9,534	20,351	2,583
Lancashire	Preston	110,523	9,753	24,440	2,717
“	Salford.................	105,335	9,756	22,386	2,600
Middlesex	East London	40,687	9,756	19,782	2,351
Yorkshire, W. Riding	Bradford	196,475	9,788	25,034	2,569
Lancashire	Ashton-under-Lyne ..	134,753	9,837	24,713	2,666
Glamorganshire	Merthyr Tydvil	107,105	9,985	22,974	2,861
Middlesex	Holborn	44,862	9,991	20,446	2,564
Yorkshire, W. Riding	Sheffield	128,951	10,025	22,600	2,845
Surrey..................	Southwark	36,170	10,143	21,129	3,045
Warwickshire	Coventry...............	41,647	10,191	27,557	2,527
Nottinghamshire	Nottingham	75,765	10,226	25,293	2,666
Yorkshire, W. Riding	Leeds	117,566	10,271	23,932	2,772
Middlesex	Whitechapel	78,970	10,365	21,541	3,041
Staffordshire	Wolverhampton	126,902	10,480	24,950	2,761
Middlesex	St. Giles'	54,076	10,708	22,191	2,668
Surrey	St. Olave, Southwark	19,056	10,945	21,309	5,875
Middlesex	West London.........	27,145	11,548	19,613	4,501
Lancashire	Manchester	243,988	11,724	26,125	3,148
“	Liverpool	269,741	13,201	27,703	3,330

VITAL STATISTICS

OF THE

CITY OF MANCHESTER,

FOR THE YEARS 1872–73.

MANCHESTER—1872, 1873.

DEATHS FROM MEASLES.

	1872.		1873.
Ancoats	17	...	46
Deansgate	9	...	82
London-road	6	...	15
Market-street	5	...	16
St. George's	16	...	55
Hulme	5	...	116
Chorlton	8	...	43
Ardwick	36	...	9
Cheetham	0	...	6
Totals in City	102	...	338

DEATHS IN EACH MONTH FROM MEASLES.

	1872.		1873.
January	1	...	49
February	1	...	40
March	2	...	46
April	1	...	29
May	4	...	54
June	0	...	65
July	2	...	20
August	1	...	12
September	1	...	5
October	17	...	8
November	29	...	7
December	43	...	3

DEATHS PER 1,000 INHABITANTS FROM MEASLES.

	1872.		1873.
Ancoats	0·32	...	0·88
Deansgate	0·38	...	1·37
London-road	0·28	...	0·73
Market-street	0·29	...	0·98
St. George's	0·26	...	0·91
Hulme	0·06	...	1·52
Chorlton	0·15	...	0·83
Ardwick	1·25	...	0·30
Cheetham	0·00	...	0·26

DEATHS FROM WHOOPING COUGH.

	1872.		1873.
Ancoats	115	...	21
Deansgate	41	...	8
London-road	26	...	8
Market-street	23	...	3
St. George's	124	...	16
Hulme	45	...	36
Chorlton	47	...	30
Ardwick	16	...	25
Cheetham	19	...	4
Totals in City	456	...	151

DEATHS IN EACH MONTH FROM WHOOPING COUGH.

	1872.		1873.
January	108	...	20
February	93	...	22
March	75	...	14
April	49	...	17
May	40	...	12
June	23	...	11
July	14	...	7
August	13	...	10
September	16	...	11
October	6	...	10
November	11	...	9
December	8	...	8

DEATHS PER 1,000 INHABITANTS FROM WHOOPING COUGH.

	1872.		1873.
Ancoats	2·20	...	0·40
Deansgate	1·73	...	0·34
London-road	1·24	...	0·39
Market-street	1·37	...	0·18
St. George's	2·08	...	0·26
Hulme	0·59	...	0·47
Chorlton	0·92	...	0·58
Ardwick	0·55	...	0·85
Cheetham	0·85	...	0·17

Deaths from Fever.

	1872.		1873.
Ancoats	39	...	26
Deansgate	17	...	16
London-road	10	...	13
Market-street	45	...	41
St. George's	31	...	40
Hulme	45	...	43
Chorlton	18	...	26
Cheetham	10	...	8
Ardwick	27	...	19
Totals in City	242	...	232

Deaths in each Month from Fever.

	1872.		1873.
January	31	...	28
February	21	...	16
March	18	...	17
April	16	...	24
May	11	...	22
June	12	...	13
July	13	...	6
August	7	...	16
September	18	...	32
October	44	...	26
November	22	...	17
December	29	...	15

Deaths per 1,000 Inhabitants from Fever.

	1872.		1873.
Ancoats	0·74	...	0·50
Deansgate	0·71	...	0·68
London-road	0·47	...	0·64
Market-street	2·68	...	2·52
St. George's	0·52	...	0·66
Hulme	0·59	...	0·56
Chorlton	0·35	...	0·50
Ardwick	0·94	...	0·65
Cheetham	0·45	...	0·35

Deaths from Scarlatina.

	1872.		1873.
Ancoats	53	...	111
Deansgate	29	...	7
London-road	16	...	59
Market-street	33	...	14
St. George's	100	...	125
Hulme	46	...	53
Chorlton	37	...	46
Ardwick	15	...	91
Cheetham	15	...	16
Totals in City	344	...	522

Deaths in each Month from Scarlatina.

	1872.		1873.
January	28	...	67
February	15	...	43
March	16	...	48
April	14	...	35
May	13	...	34
June	16	...	40
July	36	...	18
August	25	...	47
September	27	...	39
October	55	...	79
November	44	...	34
December	55	...	38

Deaths per 1,000 Inhabitants from Scarlatina.

	1862.		1863.
Ancoats	1·01	...	2·14
Deansgate	1·22	...	0·30
London-road	0·76	...	2·90
Market-street	1·97	...	0·86
St. George's	1·68	...	2·06
Hulme	0·60	...	0·69
Chorlton	0·73	...	0·89
Ardwick	0·52	...	3·11
Cheetham	0·67	...	0·70

Deaths from Smallpox.

	1872.		1873.
Ancoats	5	...	2
Deansgate	4	...	1
London-road	3	...	2
Market-street	20	...	2
St. George's	14	...	12
Hulme	6	...	0
Chorlton	4	...	0
Ardwick	1	...	0
Cheetham	6	...	0
	63	...	19

DEATHS FROM DIARRHŒA.

	1872.		1873.
Ancoats	176	...	160
Deansgate	58	...	55
London-road	71	...	82
Market-street	37	...	37
St. George's	141	...	163
Hulme	117	...	101
Chorlton	74	...	80
Ardwick	59	...	46
Cheetham	24	...	25
Totals	757	...	749

Rate per 1,000 of Population.

	1872.		1873.
Ancoats	3·37	...	3·09
Deansgate	2·45	...	2.37
London-road	3·39	...	4·03
Market-street	2·21	...	2·27
St. George's	2·37	...	2·69
Hulme	1·54	...	1·32
Chorlton	1·45	...	1·55
Ardwick	2·05	...	1·57
Cheetham	1·08	...	1.10

Seasons in which the greater number of deaths occur from Diarrhœa.

Week ending July 13th, 1872	...	11
" 20th "	...	16
" 27th "	...	21
" August 3rd "	...	61
" 10th "	...	75
" 17th "	...	53
" 24th "	...	58
" 31st "	...	60
" Sept. 7th "	...	64
" 14th "	...	48
" 21st "	...	54
" 28th "	...	40
" Oct. 5th "	...	34
" 12th "	...	14
" 19th "	...	14
" 26th "	...	11

Week ending June 28th, 1873	...	9
" July 5th "	...	16
" 12th "	...	22
" 19th "	...	33
" 26th "	...	39
" August 2nd "	...	62
" 9th "	...	72
" 16th "	...	69
" 23rd "	...	63
" 30th "	...	41
" Sept. 6th "	...	48
" 13th "	...	37
" 20th "	...	35
" 27th "	...	26
" Oct. 4th "	...	19
" 11th "	...	17
" 18th "	...	10
" 25th "	...	9

	1872.		1873.
The number of deaths from Diphtheria	20	...	10

The total number of deaths within the city (excluding Beswick) from all causes was in 1872 9,551, which, taking the estimated population as 350,002, gives a rate of 27·28 per 1,000.

The total number of deaths in the city (excluding the small portion of Newton) was in 1873 10,015, which, taking the population as 351,080, gives a rate of 28·52 per 1,000 of population.

NO. OF DEATHS AND RATE PER 1,000 IN EACH QUARTER OF THE YEAR 1872.

	No. of Deaths.		Rate per 1,000.
Quarter ending March 30th	2,539	......	28·9
" " June 29th	2,241	......	25·4
" " September 28th	2.329	......	26·6
" " December 28th	2,442	......	27·9

No. of Deaths and Rate per 1,000 in each Quarter of the Year 1873.

	No. of Deaths.	Rate per 1,000.
Quarter ending March 29th	2,799	31·88
" " June 28th	2,420	27·56
" " September 27th	2,515	28·65
" " December 27th	2,281	25·95

Number of deaths from infectious febrile diseases (Small Pox, Measles, Scarletina, Fever, Whooping Cough) in 1872, 1,207, showing a rate of 3·4 per 1,000 living.

Number of deaths from infectious febrile diseases (Small Pox, Measles, Scarletina, Fever, Whooping Cough) in 1873, 1,262, showing a rate of 3·5 per 1,000 living.

	1872.	1873.
Deaths under 5 years of age from all causes per 100	47·3	47·9
Total number of deaths from diseases of the lungs	2,808	3,063

Total Number of Deaths and Rate per 1,000 in each Registration Sub-District.

	1872.		1873.	
	No. of Deaths.	Rate per 1,000.	No. of Deaths.	Rate per 1,000.
Ancoats	1,522	29·1	1,538	29·7
Deansgate	693	29·3	633	27·2
London Road	609	29·1	676	33·2
Market Street	1,345	80·3	1,300	80·0
St. George's	1,580	26·6	1,676	27·7
Hulme	1,691	22·4	1,880	24·7
Chorlton	1,032	20·4	1,156	22·5
Ardwick	657	22·9	770	26·3
Cheetham	422	19·0	386	17·0

Table showing the number of Deaths in the respective Sub-Districts during the first two quarters and the last two quarters in the year.

	1872.		1873.	
	First two quarters.	Last two quarters.	First two quarters.	Last two quarters.
Ancoats	796	726	780	758
Deansgate	363	330	342	291
London Road	284	325	319	357
Market Street	621	724	720	580
St. George's	806	774	857	819
Hulme	866	825	1,016	864
Chorlton	517	515	627	529
Ardwick	304	353	365	405
Cheetham	223	199	193	193
	4,780	4,771	5,219	4,796

TABLE

Exhibiting the Ages at Death in the Registration Sub-Districts during the years 1872 *and* 1873; *also the proportions per cent. which the deaths at each age bear to the total number of deaths.*

Names of Sub-Districts.	1872.							1873.						
	Deaths at 1 year and under.	Deaths at 5 years and under.	Deaths above 5 years.	Total Deaths.	Rate per cent. at 1 year and under.	Rate per cent. at 5 years and under.	Rate per cent. above 5 years.	Deaths at 1 year and under.	Deaths at 5 years and under.	Deaths above 5 years.	Total Deaths.	Rate per cent. at 1 year and under.	Rate per cent. at 5 years and under.	Rate per cent. above 5 years.
Ancoats	667	848	674	1,522	43·8	55·7	44·3	623	802	736	1,538	40.5	52·1	47·9
Deansgate	286	367	326	693	41·2	52·9	47·1	247	318	315	633	39·0	50·2	49·8
London Road............	246	307	302	609	40·3	50·4	49·6	288	364	312	676	42·6	53·8	46·2
Market Street............	200	304	1,041	1,345	14·8	22·6	77·4	156	239	1,061	1,300	12·0	18·4	81·6
St. George's	529	885	695	1,580	33·4	56·0	44·0	547	956	720	1,676	32·6	57·0	43·0
Hulme	654	823	868	1,691	38·6	48·6	51·4	758	982	898	1,880	40·3	52·2	47·8
Chorlton	282	457	575	1,032	27·3	44·2	55·8	331	543	613	1,156	28·6	46·9	53·1
Ardwick	215	366	291	657	32·7	55·7	44·3	254	435	335	770	32·6	56·5	43·5
Cheetham	110	170	252	422	43·6	40·2	59·8	100	163	223	386	25·9	42·2	57·8
Totals..............	3,189	4,527	5,024	9,551	33·4	47·3	52·7	3,304	4,802	5,213	10,015	32·9	47·9	52·1

TABLE

Showing the number of Deaths in each Registration Sub-District from five Zymotic Diseases, viz., Measles, Small Pox, Whooping Cough, Scarlatina, and Fever, and the Rate per 1,000 *from those Diseases; also the number of Deaths from other causes, and the Rate per* 1,000 *during the Years* 1872-73.

Names of Sub-Districts.	1872.						1873.					
	Estimated Population.	No. of Deaths from Zymotic Diseases.	No. of Deaths from Non-ZymoticDiseases.	Total Deaths.	Rate per 1,000 of Deaths from ZymoticDiseases.	Rate per 1,000 of Deaths from Non-ZymoticDiseases.	Estimated Population.	No. of Deaths from Zymotic Diseases.	No. of Deaths from Non-ZymoticDiseases.	Total Deaths.	Rate per 1,000 of Deaths from ZymoticDiseases.	Rate per 1,000 of Deaths from Non-ZymoticDiseases.
Ancoats	52,152	229	1,293	1,522	4·3	24·8	51,734	206	1,332	1,538	3·9	25·8
Deansgate..........................	23,639	100	593	693	4·2	25·1	23,212	64	569	633	2·7	24·5
London Road.......................	20,891	61	548	609	2·9	26·2	20,302	97	579	676	4·8	28·4
Market Street......................	16,737	126	1,219	1,345	7·5	72·8	16,238	76	1,224	1,300	4·6	75·4
St. George's	59,374	285	1,295	1,580	4·8	21·8	60,399	248	1,428	1,676	4·1	23·6
Hulme	75,454	147	1,544	1,691	1·9	20·5	76,010	248	1,632	1,880	3·2	21·5
Chorlton	50,854	114	918	1.032	2·2	18·0	51,301	145	1,011	1,156	2·8	19·7
Ardwick.............................	28,697	78	579	657	2·7	20·2	29,229	144	626	770	4·9	21·4
Cheetham	22,204	67	355	422	3·0	16·0	22,655	34	352	386	1·5	15·5
Totals....................	350,002	1,207	8,344	9,551	3·4	23·	351,080	1,262	8,753	10,015	3·5	25·0

SANITARY MAP OF THE CITY OF MANCHESTER.

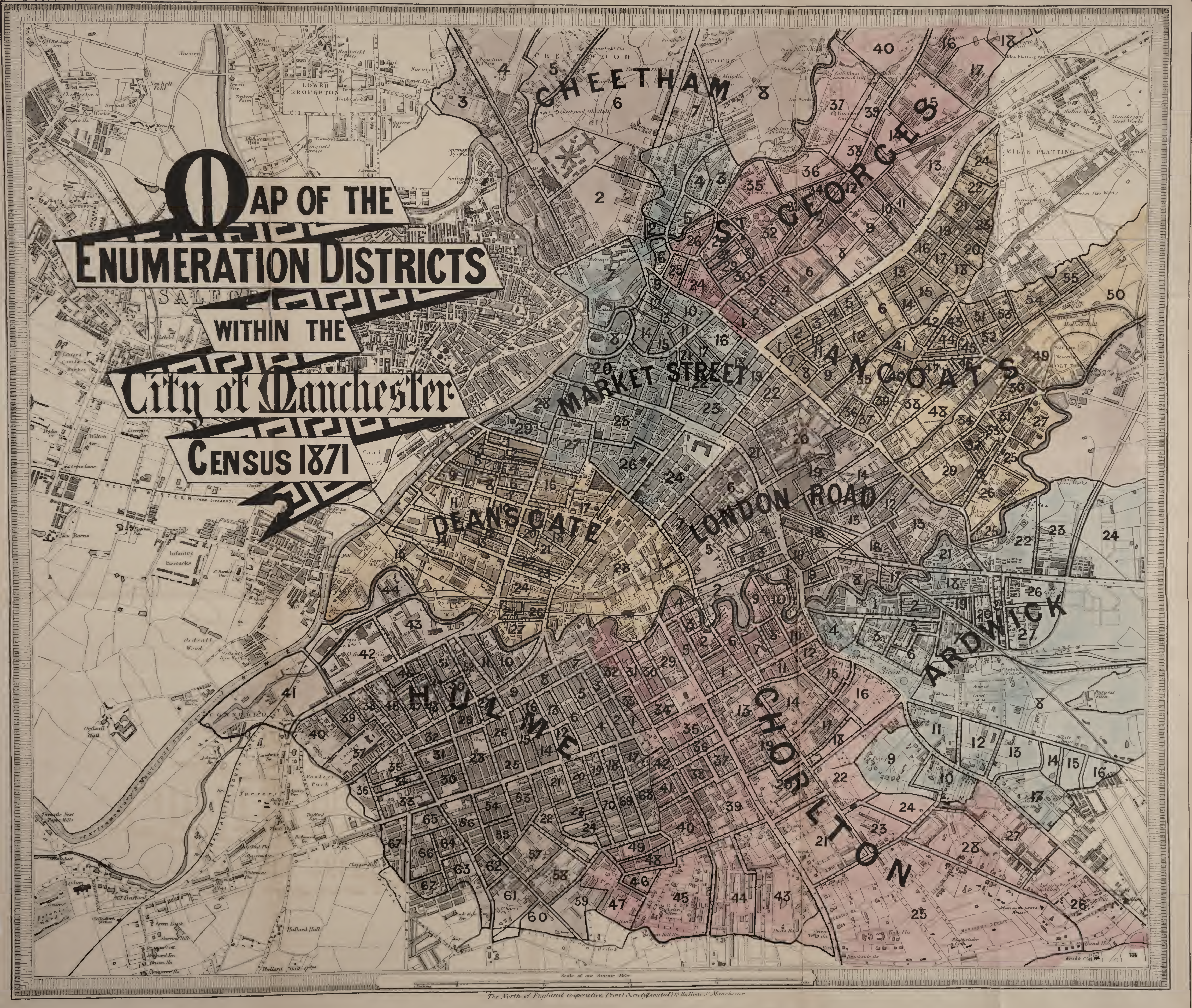

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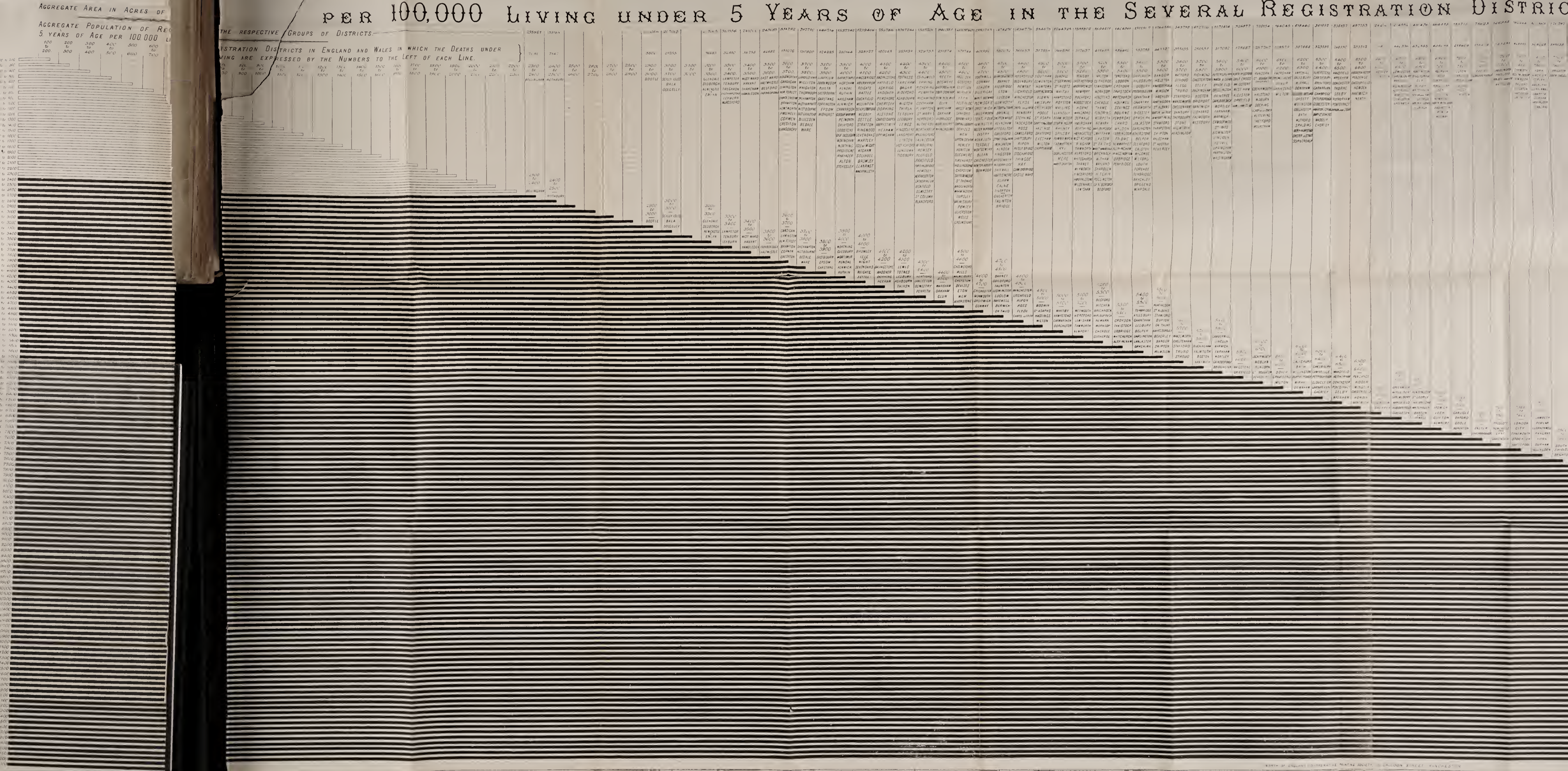
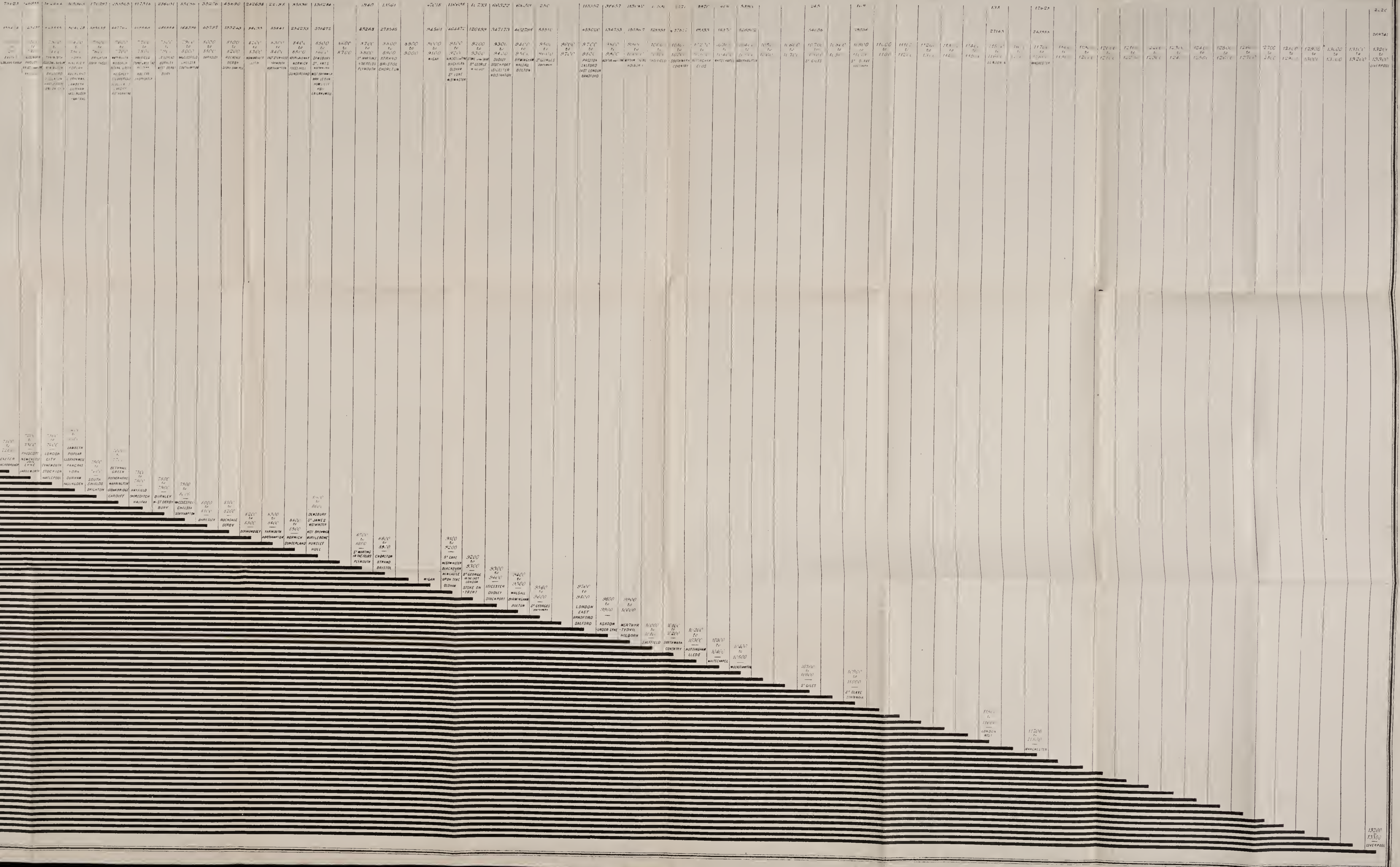
CHART

EXHIBITING THE AVERAGE ANNUAL NUMBER OF DEATH

PER 100,000 LIVING UNDER 5 YEARS OF AGE IN THE SEVERAL REGISTRATION DISTRIC



DEATHS UNDER 5 YEARS OF AGE
DISTRICTS OF ENGLAND AND WALES DURING THE TEN YEARS 1851-60.


7100 to 7200 EXETER
7200 to 7300 PRESCOTT NEWCASTLE UNDER LYNE SADDLEWORTH
7300 to 7400 LONDON CITY TYNEMOUTH STOCKTON HARTLEPOOL
7400 to 7500 LAMBETH POPLAR CLERKENWELL PANCRAS YORK DURHAM HASLINGDEN
7500 to 7600 SOUTH SHIELDS BRIGHTON
7600 to 7700 BETHNAL GREEN ROTHERHITHE WARRINGTON STOURBRIDGE CARDIFF
7700 to 7800 HAYFIELD SHOREDITCH HALIFAX
7800 to 7900 BURNLEY W. ST DERBY BURY
7900 to 8000 MACCLESFIELD CHELSEA SOUTHAMPTON
8000 to 8100 BARNSLEY
8100 to 8200 ROCHDALE DERBY
8200 to 8300 BERMONDSEY
8300 to 8400 YARMOUTH NORTHAMPTON
8400 to 8500 NORWICH SUNDERLAND
8500 to 8600 DEWSBURY ST JAMES WESTMINSTER WEST BROMWICH MARYLEBONE HUNSLET HULL
8700 to 8800 ST MARTINS IN THE FIELDS PLYMOUTH
8800 to 8900 CHORLTON STRAND BRISTOL
WIGAN
9100 to 9200 ST LUKE WESTMINSTER BLACKBURN NEWCASTLE UPON TYNE OLDHAM
9200 to 9300 ST GEORGE IN THE EAST LONDON STOKE ON TRENT
9300 to 9400 LEICESTER DUDLEY STOCKPORT
9400 to 9500 WALSALL BIRMINGHAM BOLTON
9500 to 9600 ST GEORGES SOUTHWARK
9700 to 9800 LONDON EAST BRADFORD SALFORD
9800 to 9900 ASHTON UNDER LYNE
9900 to 10000 MERTHYR TYDVIL HOLBORN
10000 to 10100 SHEFFIELD
10100 to 10200 SOUTHWARK COVENTRY
10200 to 10300 NOTTINGHAM LEEDS
10300 to 10400 WHITECHAPEL
10400 to 10500 WOLVERHAMPTON
10700 to 10800 ST GILES
10900 to 11000 ST OLAVE SOUTHWARK
11500 to 11600 LONDON WEST
11700 to 11800 MANCHESTER
13200 to 13300 LIVERPOOL